SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name  FPRM11

Other means of identification

UN-Number  UN2330

Synonyms  None

Recommended use of the chemical and restrictions on use

Recommended Use  Flash point testing equipment performance verification reference material

Uses advised against  No information available

Supplier’s details

Supplier Address  Cannon Instrument Company
2139 High Tech Rd.
State College, PA 16803-1733
TEL: (814) 353-8000; (800) 676-6232

Emergency telephone number

Emergency Telephone  (800) 255-3924 Domestic CHEM-TEL Inc.
Number  +1 (813) 248-0585 Overseas CHEM-TEL Inc. (Please Call Collect)

2. HAZARDS IDENTIFICATION

Classification

This product is considered hazardous according to the criteria set within the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico’s NMX-R-019-SC-2011.

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Aspiration Toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word  Danger
Hazard Statements
Causes skin irritation
Causes serious eye irritation
May be fatal if swallowed and enters airways
Combustible liquid.

Physical and Health Hazards Not Otherwise Classified
Not applicable.

Precautionary Statements

Prevention
• Wash face, hands and any exposed skin thoroughly after handling.
• Keep away from heat/sparks/open flames/hot surfaces - No smoking.
• Wear protective gloves/protective clothing/eye protection/face protection.

General Advice
• Specific treatment (see supplemental instructions on the administration of antidotes on this label)

Eyes
• 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.

Skin
• IF ON SKIN: Wash with plenty of soap and water.
• If skin irritation occurs: Get medical advice/attention.
• Take off contaminated clothing and wash before reuse.

Ingestion
• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
• Do NOT induce vomiting.

Fire
• In case of fire: Use CO2, dry chemical, or foam for extinction.

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

Disposal
• Dispose of contents/container to an approved waste disposal plant.

Other information
Prolonged skin contact may defat the skin and produce dermatitis. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Hazardous Material Information Review Act registry number (HMIRA registry #)</th>
<th>Date HMIRA filed and date exemption granted (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecane</td>
<td>1120-21-4</td>
<td>100</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

**Description of necessary first-aid measures**

**Eye Contact**
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Obtain medical attention if irritation persists.

**Skin Contact**
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

**Inhalation**
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Artificial respiration and/or oxygen may be necessary. Get medical attention immediately if symptoms occur. If breathing has stopped, contact emergency medical services immediately.

**Ingestion**
Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Get medical attention.

**Most important symptoms/effects, acute and delayed**

**Most Important Symptoms/Effects**

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to Physician**
Aspiration hazard.

5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Water spray. Carbon dioxide (CO\(_2\)). Foam. Dry powder.

**Unsuitable Extinguishing Media**
CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**
No information available.

**Hazardous Combustion Products**
Carbon oxides.

**Explosion Data**

| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge   | Yes.  |

**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.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**
Use personal protective equipment. Avoid contact with skin, eyes and clothing. Remove all sources of ignition.

**Environmental Precautions**

**Environmental Precautions**
Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

**Methods and materials for containment and cleaning up**
Methods for Containment

Dike to collect large liquid spills. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for Cleaning Up

Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for safe storage, including any incompatibilities

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products


8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

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

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Tightly fitting safety goggles. Safety glasses with side-shields. If splashes are likely to occur, wear:

Skin and Body Protection

Wear fire/flame resistant/retardant clothing.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Hydrocarbon-like.</td>
<td></td>
</tr>
<tr>
<td>Appearance Odor Threshold</td>
<td>Colorless.</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-10 °C</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>196 °C</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>65 °C</td>
<td>Closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>upper flammability limit</td>
<td>No data available</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity  Not reactive under normal conditions.

Chemical stability  Stable under recommended storage conditions.

Possibility of hazardous reactions  None under normal processing.

Hazardous Polymerization  Hazardous polymerization does not occur.

Conditions to avoid  Ignitions sources - heat, sparks and open flames.


Hazardous decomposition products  Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation  May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Eye Contact  Contact with eyes may cause irritation.

Skin Contact  May cause skin irritation and/or dermatitis. Prolonged skin contact may defat the skin and produce dermatitis.

Ingestion  Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed. May cause central nervous system depression. Aspiration may cause pulmonary edema and pneumonitis.

Numerical measures of toxicity - Product

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecane</td>
<td>-</td>
<td>-</td>
<td>&gt; 2.82 mg/L (Rat) 8 h &gt; 442 ppm (Rat) 8 h</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms  Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Delayed and immediate effects and also chronic effects from short and long term exposure

Respiratory or Skin Sensitization: No information available.
Germ Cell Mutagenicity: No information available.
Carcinogenicity: Contains no ingredients above reportable quantities listed as a carcinogen.

Reproductive Toxicity: No information available.
STOT - single exposure: See listed target organs below.
STOT - repeated exposure: See listed target organs below.
Chronic Toxicity: Repeated or prolonged exposure may cause central nervous system damage. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Neurological Effects: Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Repeated or prolonged overexposure to solvents may cause permanent damage to the nervous system.
Aspiration Hazard: May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecane 1120-21-4</td>
<td></td>
<td></td>
<td></td>
<td>EC50 48 h: = 0.02856 mg/L (Daphnia magna)</td>
</tr>
</tbody>
</table>

Persistence and Degradability: No information available.
Bioaccumulation: No information available.
Mobility: No information available.
Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of in accordance with federal, state, and local regulations.
Contaminated Packaging: Do not re-use empty containers.

14. TRANSPORT INFORMATION

Note: The information provided below may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional requirements and mode-specific, material-specific, or quantity-specific shipping requirements.

DOT
- UN-Number: UN2330
- Proper shipping name: Undecane
- Hazard Class: 3
- Packing Group: III
- Description: UN2330, Undecane, 3, III
- Emergency Response Guide Number: 128

TDG
- UN-Number: UN2330
- Proper Shipping Name: Undecane
15. REGULATORY INFORMATION

International Regulations

Ozone depleting substances Not applicable
Persistent Organic Pollutants Not applicable
Hazardous Waste Not applicable
The Rotterdam Convention (Prior Informed Consent) Not applicable
International Convention for the Prevention of Pollution from Ships (MARPOL) Not applicable

International Inventories

TSCA Complies
DSL Complies
EINECS Complies
ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.
SARA 311/312 Hazard Categories

- Acute Health Hazard: Yes
- Chronic Health Hazard: Yes
- Fire Hazard: Yes
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

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

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecane</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number
Not applicable

16. OTHER INFORMATION

NFPA
- Health Hazard: 2
- Flammability: 2
- Instability: 0
- Physical and Chemical Hazards: -

HMIS
- Health Hazard: 2*
- Flammability: 2
- Physical Hazard: 0
- Personal Protection: X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date
27-Jul-2017

Revision Date
27-Jul-2017

Revision Note
Initial Release.

General Disclaimer
The information provided on this SDS 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 Safety Data Sheet