1. Identification of the substance & the company

Chemical name: Proprietary mixture
Type of product and use: Flame retardant
Supplier: ICL-IP America Inc
622 Emerson Road - Suite 500
St Louis, Missouri 63141, USA
Tel:(314)983-7884   Fax:(314)983-7607

2. Hazards identification

Emergency overview: May cause eye irritation.
NFPA Ratings (Scale 0-4): Health = 1, Fire = 1, Reactivity = 0
HMIS Ratings (Scale 0-4): Health = 1, Fire = 1, Reactivity = 0.

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary FR</td>
<td>Confidential</td>
<td>&gt;96</td>
</tr>
<tr>
<td>Triphenyl phosphate</td>
<td>115-86-6</td>
<td>&lt;4</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye contact: Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.

Skin contact: Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention if irritation occurs.

Inhalation: In case of inhalation, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
Ingestion

If swallowed, wash mouth thoroughly with plenty of water. Get medical attention immediately.

| Notes to the physician | Treat symptomatically and supportively. |

5. Fire - fighting measures

| Suitable extinguishing media | Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions. |
| Fire fighting procedure | Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA). Contain runoff to prevent entry into water or drainage systems. |
| Unusual fire and explosion hazards | When heated to decomposition, may release poisonous and corrosive fumes of carbon dioxide, carbon monoxide and phosphorus oxides. |

6. Accidental release measures

| Personal precautions | Wear appropriate safety clothing and eye/face protection (see Section 8) |
| Methods for cleaning up | Collect in suitable and properly labeled containers. Soak up with sand or other suitable absorbent and dispose of as solid waste. Ventilate area and wash spill site after material pickup is complete. |
| Environmental precautions | Prevent product from entering drains, ditches and rivers. |

7. Handling and storage

| Handling | Keep containers tightly closed. Avoid bodily contact. |
| Storage | Store in a dry, cool, well-ventilated area away from incompatible materials. Maximum recommended storage temperature of 70°C (158°F). |
8. Exposure controls / personal protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH-TLV Data</th>
<th>OSHA (PEL) Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary FR</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>Triphenyl phosphate 115-86-6</td>
<td>3 mg/m³</td>
<td>3 mg/m³</td>
</tr>
</tbody>
</table>

Ventilation requirements
Due to its low vapor pressure, this product is not likely to present an inhalation hazard at normal temperatures.

Personal protective equipment:
- Respiratory protection
  Not required; except in case of aerosol formation. If product misting occurs, use NIOSH approved respirator
- Hand protection
  Neoprene gloves
- Eye protection
  Chemical safety goggles
- Skin and body protection
  Use protective clothing impervious to this material.

Hygiene measures
Safety shower and eye bath should be provided. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>208°C (closed cup)</td>
</tr>
<tr>
<td>Flammable/Explosion limits</td>
<td>Not flammable/Not explosive</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not self-ignitable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>900 mPas (25°C)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.299</td>
</tr>
<tr>
<td>Solubility:</td>
<td></td>
</tr>
<tr>
<td>- Solubility in water</td>
<td>Not available</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

<table>
<thead>
<tr>
<th>Stability</th>
<th>Stable under normal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to avoid</td>
<td>Strong oxidizers, strong acids and strong alkalis. It hydrolyzes slowly at normal temperatures in acidic or alkaline aqueous solutions.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Excessive heat and moisture</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Phosphorus oxides, Carbon dioxide and carbon monoxide</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Not expected to occur</td>
</tr>
</tbody>
</table>

11. Toxicological information

Acute toxicity:
- Rat oral LD50: > 2000 mg/kg
- Rabbit dermal LD50: > 2000 mg/kg

- Eye irritation (rabbit): Minimal irritant
- Dermal irritation (rabbit): Not irritant

Dermal sensitization: Not a sensitizer

Chronic toxicity: No data available

Mutagenicity: Not mutagenic by the Ames Test

Carcinogenicity: Not included in NTP 12th Report on Carcinogens
- Not classified by IARC
- Not classified as a carcinogen by USA OSHA

Reproductive toxicity: No data is available on the product itself.

12. Ecological information

Note: Components were tested and were found to be not hazardous to the aquatic environment and not subject to classification. No experimental ecological data are available on the preparation as such.

Aquatic toxicity: No data available
13. Disposal considerations

Waste disposal
Observe all federal, state and local environmental regulations when disposing of this material

14. Transportation information

UN No.
Not regulated

DOT
Not regulated

IMDG
Not regulated

ICAO/IATA
Not regulated

15. Regulatory information

USA
Reported in the EPA TSCA Inventory.

- SARA 313
This product does not contain a chemical listed at or above de minimis concentrations.

- California-Prop 65
This product does not contain any ingredient known to the State of California to cause cancer or reproductive toxicity as listed under the State drinking Water and Toxic Enforcement Act of 1986.

- Waste Classifications
This material does not meet RCRA’s characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40CFR 261.33.

- Workplace Classification
This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).

Canada
Listed in NDSL

- WHMIS hazard class
Non-controlled

EU
Reported in EINECS

Japan
Listed in ENCS

Australia
Listed in AICS

New Zealand Inventory
Listed in NZIoC

- China inventory
Listed in IECSC

16. Other information
MATERIAL SAFETY DATA SHEET

Product name
Fyrol HF-5

Product id
7074

Revision date
18/07/2012

Supersedes
26/07/2011

Revision: 4

This data sheet contains changes from the previous version in section(s)
Product id, 2 (ANSI), 11, 12

Note:
All sections reformatted in accordance with REACH Annex II revision

Health, Safety & Environment Policy
We will strive to ensure that our operations and products meet the needs of the present global community without compromising the ability of future generations to meet their needs. We accept that the success of our business is dependent on the supply of products and services that will benefit society whilst ensuring human safety and protection of the environment and natural resources. Within the framework of our commitment to the Responsible Care program, we will provide a healthy and safe work environment for employees and will responsibly manage our products at all stages of their life cycle in order to protect human health and the environment whilst maintaining high production standards of operation.

TO MEET THIS COMMITMENT WE WILL:
Comply with or exceed applicable national and international regulatory requirements and other requirements to which we subscribe.
Communicate openly and actively encourage dialogue with employees, customers and community concerning our products and operations.
Implement documented management systems consistent with and for promotion of the Responsible Care ethics.
Regularly assess, continually improve and responsibly manage health, safety and environmental risks associated with products and processes throughout their life-cycles.
Share knowledge and expertise with others and seek to learn from and incorporate improved practices into our own operations.
Develop and supply products that can be manufactured, transported, used and disposed of safely whilst best meeting the needs of our customers.
Educate and train employees, contractors and customers to improve their HSE performance.
Communicate up-to-date information to enable our workers, customers and other interested parties to handle our products in a safe and environmentally responsible manner.
Endeavor to work with customers, suppliers, distributors and contractors to foster the safe use, transport and disposal of our chemicals.
Support Product Stewardship programs in cooperation with customers, distributors and transporters.

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ICL-IP America Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will ICL-IP America Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.
# MATERIAL SAFETY DATA SHEET

<table>
<thead>
<tr>
<th>Product name</th>
<th>Fyrol HF-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product id</td>
<td>7074</td>
</tr>
<tr>
<td>Revision date</td>
<td>18/07/2012</td>
</tr>
<tr>
<td>Supersedes</td>
<td>26/07/2011</td>
</tr>
</tbody>
</table>

Prepared by

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telefax: +/972-8-6297832
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e-mail: msdsinfo@icl-ip.com

End of safety data sheet