MATERIAL SAFETY DATA SHEET

Product name: PHOSFLEX 362
Product id: 7015
Revision date: 06/02/2012
Supersedes: 22/11/2010

1. Identification of the substance & the company

Chemical name: 2-Ethylhexyl diphenyl phosphate
Chemical formula: C20 H27 O4 P
Chemical family: Alkyl/aryl phosphate
Type of product and use: Flame-retardant plasticizer
Supplier: ICL-IP America Inc.
622 Emerson Road - Suite 500
St Louis, Missouri 63141, USA
Tel: (314)983-7884 Fax: (314)983-7607
Emergency Telephone: Chemtrec (800)424-9300
Medical 1-800-420-9236

2. Hazards identification

Emergency overview: Mild irritant to eyes and skin
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>2-Ethylhexyl diphenyl phosphate</td>
<td>1241-94-7</td>
<td>~ 95</td>
</tr>
<tr>
<td>Triphenyl phosphate</td>
<td>115-86-6</td>
<td>&lt;5</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.

************************************************************************
NOTE: Never give an unconscious person anything to drink.
************************************************************************

Notes to the physician
Treat symptomatically and supportively.

5. Fire - fighting measures

Suitable extinguishing media
Water, water fog, carbon dioxide (CO2), dry chemical, foam

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
Soak up with sand or other suitable absorbent and dispose of as solid waste. Collect in suitable and properly labeled containers. 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
Avoid bodily contact.
Keep containers tightly closed.

Storage
Store in a dry, cool, well-ventilated area away from incompatible materials (see "materials to avoid").
Noncorrosive to glass or metals. May soften or deteriorate certain plastics and elastomers (vinyl-based resins and synthetic rubbers).

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>
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<tr>
<td>2-Ethylhexyl diphenyl phosphate</td>
<td>Not determined</td>
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<td>1241-94-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triphenyl phosphate</td>
<td>3 mg/m³</td>
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<td></td>
</tr>
</tbody>
</table>

Ventilation requirements
Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

Personal protective equipment:
- Respiratory protection
  In case of insufficient ventilation wear suitable respiratory equipment.
- Hand protection
  Neoprene gloves
- Eye protection
  Chemical safety goggles
- Skin and body protection
  Body covering clothes and boots

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

Appearance: Clear, transparent liquid
Odour: None
Boiling point/range: 239°C (10mmHg)
Melting point/range: -30°C
Pour point: -54°C (-65 °F)
Flash point: 224°C (435°F) (open cup)
Flammable/Explosion limits: Not flammable/Not explosive
Auto-ignition temperature: Not self-ignitable
Vapour pressure: 0.2 mmHg (150°C)
Viscosity: 16.4 cP (25°C)
Solubility:
- Solubility in water: 50.6µg/l at 23.5°C
Density: 1.090 g/mL (25°C)
Partition coefficient (n-octanol/water): Log Kow - 5.87 (25°C)
Explosive properties: There are no chemical groups associated with explosive properties present in the molecule
Oxidising properties: No oxidising properties can be predicted on the basis of chemical structure

10. Stability and reactivity

Stability: Stable under normal conditions
Materials to avoid: Acids alkalies
Conditions to avoid: Heating above decomposition temperature
Hazardous decomposition products: Carbon dioxide and carbon monoxide
Hazardous polymerization: Not expected to occur

11. Toxicological information

Acute toxicity:
- Rat oral LD50: 15800 mg/kg bw
- Rat inhalation LC50: 2100 mg/m³ air
- Eye irritation (rabbit): Slightly irritant
- Dermal irritation (rabbit): Slightly irritating to skin but not sufficient for classification.

Skin corrosion/irritation: Slightly irritating to skin but not sufficient for classification.

Dermal sensitization: Not a sensitizer
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Chronic toxicity: Rats and dogs fed 2-ethyl hexyl diphenyl phosphate in their diets for two years showed a decrease growth rate.

Mutagenicity: Not mutagenic by the Ames Test and by mouse lymphoma assay.

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

Neurotoxicity: No signs of acute delayed neurotoxicity when administered orally to hens.

Developmental toxicity: In a developmental toxicity test, the product was not teratogenic or embryotoxic when administered orally to pregnant rats at doses that produced maternal toxicity. When pregnant rats were fed at high doses, offspring had lower body weights.

12. Ecological information

Note: The aquatic toxicity was tested above the solubility level

Aquatic toxicity: 
- 48 Hour-EC50, Daphnia magna: 0.15 mg/l

Biodegradation: Readily biodegradable - Modified Sturm Test (OECD 301B)

Bioaccumulative potential: Not bioaccumulative  
BCF > or = 100

13. Disposal considerations

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

Disposal of Packaging: Dispose of in a safe manner in accordance with local/national regulations.

14. Transportation information

DOT: Not regulated
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IMO: Not regulated
ICAO/IATA: Not regulated

15. Regulatory information

USA
- SARA 313: Reported in the EPA TSCA Inventory.
  This product does not contain a chemical listed at or above de minimis concentrations.

- Massachusetts Right-to-Know
  Hazardous Substances list: Listed (Triphenyl phosphate)

- New Jersey Right-to-Know
  Hazardous Substances list: Listed (Triphenyl phosphate)

- Pennsylvania Right-to-Know
  Hazardous Substances list: Listed (Triphenyl phosphate)

- Rhode Island Right-to-Know
  Hazardous Substances list: Listed (Triphenyl phosphate)

- 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
- 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
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**Korea**
- Listed

**Philippines**
- Listed in PICCS

## 16. Other information

**Product is not subject to classification according to GHS. No label elements required.**

**This data sheet contains changes from the previous version in section(s)**
- 1 (REACH), 2 (ANSI), 3, 15 & 16 (ANSI)

**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.

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.

TO MEET THIS COMMITMENT WE WILL:

- Develop and supply products that can be manufactured, transported, used and disposed of safely whilst best meeting the needs of our customers.
- 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.
- 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.
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In an event of discrepancy between the contents of this MSDS and the English version of it, the English version shall prevail.

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telefax: +/972-8-6297832
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End of safety data sheet