

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS)

<b>Product name</b>	<b>PHOSFLEX 31L</b>	
<b>Product id</b>	7017	
<b>Revision date</b>	29/01/2015	<b>Revision: 4</b>
<b>Supersedes</b>	07/02/2012	

## 1. Identification of the substance & the company

<b>Chemical name</b>	Isopropylated triphenyl phosphate
<b>Synonym(s)</b>	Phenol, isopropylated, phosphate (3:1), IpTPP.
<b>Chemical formula</b>	C27H33O4P
<b>Chemical family</b>	Aryl phosphate
<b>Molecular weight</b>	452.52
<b>Type of product and use</b>	Flame-retardant plasticizer
<b>Supplier</b>	ICL-IP America Inc. 622 Emerson Road - Suite 500 St Louis, Missouri 63141, USA Tel:(314)983-7884 Fax:(314)983-7607 e-mail:msdsinfo@icl-group.com
<b>Emergency Telephone</b>	Chemtrec: (800) 424-9300 Medical: PROSAR 1-888-875-1685 (24HRS)

## 2. Hazards identification

<b>GHS classification</b>	Repr.2 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. STOT RE 2, H373 - May cause damage to ovary/oviduct, adrenal gland, liver, epididymides through prolonged or repeated exposure Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects
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**Symbol(s)**



<b>Signal Word</b>	WARNING
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<b>Hazard statements</b>	H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child H373 - May cause damage to ovary/oviduct, adrenal gland, liver, epididymides through prolonged or repeated exposure H411 - Toxic to aquatic life with long lasting effects
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**Precautionary statements** P202 - Do not handle until all safety precautions have been read and understood  
P260 - Do not breathe fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment  
P391 - Collect spillage  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P501 - Dispose of contents/container in accordance with national and international regulations

**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

Components	CAS No.	Weight %
Propylated triphenyl phosphate	68937-41-7	64-72
Triphenyl phosphate	115-86-6	28-36

## 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 reuse. 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.

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NOTE: Never give an unconscious person anything to drink  
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### Most important symptoms and effects, acute or delayed

Suspected of damaging fertility or the unborn child.  
May cause damage to ovary/oviduct, adrenal gland, liver, epididymides through prolonged or repeated exposure

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

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## 5. Fire - fighting measures

**Suitable extinguishing media** Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.

**Unusual fire and explosion hazards** When heated to decomposition, may release poisonous and corrosive fumes of carbon dioxide, carbon monoxide and phosphorus oxides.

**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.

## 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 absorbant 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** Keep containers tightly closed. Avoid bodily contact.

**Storage** Store in a dry, cool, well-ventilated area. away from incompatible materials (see "materials to avoid"). Maximum recommended storage temperature of 65°C (149°F)  
Crystallizes at temperatures below 4.4°C (40°F).

## 8. Exposure controls / personal protection

**Exposure Limits :**

Components	ACGIH-TLV Data	OSHA (PEL) Data
Propylated triphenyl phosphate 68937-41-7	Not determined	Not determined
Triphenyl phosphate 115-86-6	3 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>

**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

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- **Skin and body protection** Body covering clothes and boots

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

## 9. Physical and chemical properties

<b>Appearance</b>	Clear colorless liquid
<b>Odor</b>	None
<b>Melting point/range</b>	< -20°C
<b>Boiling point/range</b>	410°C (770°F)
<b>Flash point</b>	>225°C (>437°F) (open cup)
<b>Flammable/Explosion limits</b>	Not flammable/Not explosive
<b>Vapor pressure</b>	2.74x10 <sup>(-4)</sup> Pa (20°C)
<b>Density</b>	1.168 (20°C)
- <b>Solubility in water</b>	Hydrolyses 0.330-0.367mg/l at 20°C
<b>Partition coefficient (n-octanol/water)</b>	Log Pow = 4.92-5.17
<b>Auto-ignition temperature</b>	Not self-ignitable
<b>Viscosity</b>	96.3 mPa*sec (dynamic) (20°C)
<b>Explosive properties</b>	There are no chemical groups associated with explosive properties present in the molecule
<b>Oxidising properties</b>	The structure indicates non oxidizing properties

## 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions
<b>Conditions to avoid</b>	Exposure to moisture.
<b>Materials to avoid</b>	Strong oxidizers, strong acids and strong alkalis. It hydrolyzes slowly at normal temperatures in acidic or alkaline aqueous solutions.
<b>Hazardous decomposition products</b>	Carbon dioxide and carbon monoxide Phosphorus oxides,

## 11. Toxicological information

### Acute toxicity:

- Rat oral LD50	> 2000 mg/kg
- Rabbit dermal LD50	> 2000 mg/kg
- Rat inhalation LC50	200 mg/m <sup>3</sup> air
- Eye irritation (rabbit)	Not irritant.
- Dermal irritation (rabbit)	Mild irritant.

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**Specific Target Organ Toxicity (STOT) - Repeat exposure** At dose levels of 25 mg/kg/day and above, parental toxicity was evidenced by increased ovary/oviduct, adrenal gland (males and females) and liver (males only) weights and decreased epididymal weights.

**Mutagenicity** Weak mutagenic activity in cell forward mutagen assay in mouse lymphoma with metabolic activation.  
Not mutagenic by the Ames Test.  
Tests on mammalian cell cultures with and without metabolic activation did not show mutagenic effects.

**Carcinogenicity** Not classified by IARC  
Not included in NTP 13th Report on Carcinogens  
Not classified as a carcinogen by USA OSHA

**Reproductive toxicity** In a reproductive toxicity study, rats received daily oral doses of 25, 100 or 400 mg/kg/day for two weeks. The animals were mated and their reproductive organs were microscopically examined. Decreased fertility was observed in the mid and high dose animals. Adverse effects on the reproductive organs were observed at all dose levels. The results of this study indicated that isopropylated triphenylphosphate is a reproductive toxin.

**Neurotoxicity** Neurotoxicity only takes place at high dose levels. No classification assigned

## 12. Ecological information

### Aquatic toxicity :

- 96 Hour-LC50, Fish 0.36 mg/l (Rainbow Trout)  
> 1.3 mg/l (Sheepshead minnow)  
- LC50, Crustacea > 1 mg/l (Mysid shrimp)  
- 48 hour-LC50, Daphnia magna 1.0 mg/l

**Biodegradation** This material hydrolyzes in water

**Bioaccumulative potential** Not expected to bioaccumulate (QSAR)

**Note:** Not considered to be PBT or vPvB

## 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.

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## 14. Transportation information

<b>UN No.</b>	3082
<b>DOT</b>	Proper shipping name: Environmentally hazardous substances, liquid , n.o.s (contains triphenyl phosphate & triaryl phosphates, isopropylated) Class: 9 - Miscellaneous Hazardous Material Label: 9 Packing Group: III  Not regulated for surface and air transport in non-bulk (<119 gallons) packagings. (contains triphenyl phosphate & isopropylated triaryl phosphates which are Marine Pollutants per 49CFR 172.101 Appendix B)
<b>IMDG</b>	Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (contains triphenyl phosphate & triaryl phosphates, isopropylated) Class: 9 - Miscellaneous Dangerous Substances and Articles Label: 9 Packing Group: III Mark: MARINE POLLUTANT
<b>ICAO/IATA</b>	Proper shipping name: Environmentally hazardous substance, liquid , n.o.s (contains triphenyl phosphate & triaryl phosphates, isopropylated) Class: 9 Hazard label(s): Miscellaneous Packing group: III Marking: Environmentally hazardous substance

## 15. Regulatory information

<b>USA</b>	Reported in the EPA TSCA Inventory.
<b>- SARA 313</b>	This product does not contain a chemical listed at or above de minimis concentrations
<b>- California-Prop 65</b>	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.
<b>- Waste Classifications</b>	This material does not meet RCRA`s characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40CFR 261.33.
<b>Canada</b>	Listed in DSL
<b>-WHMIS hazard class</b>	Triphenyl phosphate: D2A Very toxic material causing other toxic effects
<b>EU</b>	Reported in EINECS

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**Japan** Listed in ENCS

**Australia** Listed in AICS

**New Zealand Inventory** Listed in NZIoC

**China  
- China inventory** Listed in IECSC

**Korea** Listed in ECL

**Taiwan** Listed

**Philippines** Listed in PICCS

## 16. Other information

**This data sheet contains changes from the previous version in section(s)**  
2, 4, 8 (REACH), 9, 11, 12, 15

### **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.

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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**Prepared by** HERA Division in ISRAEL  
telephone: +/972-8-6297835  
telefax: +/972-8-6297832  
www.icl-group.com

**End of safety data sheet**