

## SAFETY DATA SHEET

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<b>Product name</b>	<b>FYROL PCF</b>	
<b>Product id</b>	7002	
<b>Revision date</b>	10/06/2014	<b>Revision: 6</b>
<b>Supersedes</b>	23/06/2011	

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### 1. Identification of the substance & the company

<b>Chemical name</b>	Tris(2-chloroisopropyl) phosphate
<b>Chemical formula</b>	C <sub>9</sub> H <sub>18</sub> Cl <sub>3</sub> O <sub>4</sub> P
<b>Chemical family</b>	Alkyl phosphate
<b>Molecular weight</b>	ca.327.57
<b>Type of product and use</b>	Flame retardant
<b>Company</b>	ICL-IP Bitterfeld GmbH P.O.Box 1210 D-06732 Bitterfeld, Germany Office: +49 (3493) 72158 Fax: +49 (3493) 72182
<b>Emergency telephone number:</b>	
- For Europe	+32 (0) 3 575 5555 SGS
- For USA	Chemtrec (800) 424-9300
- For Asia - Pacific	ALERT-SGS 24 hr Toll Free Number : +800 ALERTSGS (+800-2537-8747) 24 hr Singapore Exchange Number : +65 6542-9595
- For Japan	Tel: 03-6801 8430: 03-6801 6970

### 2. Hazards identification

<b>GHS classification</b>	Acute Tox. 4, H302 Harmful if swallowed
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<b>Signal Word</b>	WARNING
<b>Hazard statements</b>	H302 - Harmful if swallowed



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

**5. Fire - fighting measures**

**Suitable extinguishing media**            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, Hydrogen Chloride 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 50°C (122°F).

**8. Exposure controls / personal protection**

**Exposure Limits :**

Components	ACGIH-TLV Data	OSHA (PEL) Data
Phosphoric trichloride, reaction products with propylene oxide 1244733-77-4	Not determined	Not determined

**Ventilation requirements**                      Provide adequate ventilation.

**Personal protective equipment:**

- **Respiratory protection**                      In case of insufficient ventilation wear suitable respiratory equipment.
- **Hand protection**                                Rubber gloves

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<b>- Eye protection</b>	Chemical safety goggles
<b>- Skin and body protection</b>	Use protective clothing impervious to this material.
<b>Hygiene measures</b>	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>	Slightly sweetish
<b>Melting point/range</b>	-20°C
<b>Boiling point/range</b>	288°C (decomposes)
<b>Flash point</b>	>245°C (closed cup)
<b>Flammable/Explosion limits</b>	Not flammable/Not explosive
<b>Vapor pressure</b>	1.4x10 <sup>(-3)</sup> Pa (25°C)
<b>Relative density</b>	1.290 (20°C)
<b>Solubility:</b>	
<b>- Solubility in water</b>	1.08g/l at 20°C
<b>Partition coefficient (n-octanol/water)</b>	Log Pow = 2.68
<b>Auto-ignition temperature</b>	> 400°C
<b>Decomposition temperature</b>	245°C
<b>Viscosity</b>	71mPas (25°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>	Heating above decomposition temperature.
<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>	Hydrogen Chloride, Halogenated hydrocarbons

### 11. Toxicological information

<b>Acute toxicity:</b>	
<b>- Rat oral LD50</b>	630 - 2000 mg/kg
<b>- Rabbit dermal LD50</b>	> 5000 mg/kg
<b>- Rat dermal LD50</b>	>2000 mg/kg
<b>- Rat inhalation LC50</b>	> 7 mg/l (4-hr)

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- Dermal irritation (rabbit)	Not irritant.
- Eye irritation (rabbit)	Not irritant
Dermal sensitization	Not a sensitizer.
<b>Sub-chronic toxicity:</b>	
- NOEL	> 20,000 ppm (13 weeks oral rat)
Chronic toxicity	No data available
Mutagenicity	Not mutagenic by the Ames Test. Mutagenic in the mouse lymphoma L5178Y test system. Non genotoxic in an in-vivo micronucleus test in mice
Carcinogenicity	Not classified by IARC Not included in NTP 12th Report on Carcinogens
Reproductive toxicity	In a two-generation oral reproductive toxicity study a LOAEL of 99 mg/kg/day is derived for effects on fertility and for developmental toxicity.
Neurotoxicity	Not neurotoxic

**12. Ecological information**

**Aquatic toxicity :**

- 96 Hour-LC50, Fish	56.2 mg/L
- 48 Hour-EC50, Daphnia magna	131 mg/L
- 72 Hour-EC50, Freshwater algae	82 mg/L

<b>Chronic toxicity Biodegradation</b>	The No Observed Effect Concentration (NOEC) in Daphnia magna is 32 mg/l. Not readily biodegradable. Inherently biodegradable
<b>Bioaccumulative potential</b>	Not bioaccumulative

**13. Disposal considerations**

<b>Waste disposal</b>	Dispose of in a safe manner in accordance with local/national regulations.
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**14. Transportation information**

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<b>IMDG</b>	Not regulated
<b>ADR/RID</b>	Not regulated
<b>ICAO/IATA</b>	Not regulated
<b>DOT</b>	Not regulated

### 15. Regulatory information

<b>EU</b>	Reported in EINECS
<b>USA</b>	Reported in the EPA TSCA Inventory.
<b>Australia</b>	Listed in AICS
<b>Canada</b>	Listed in DSL
<b>China - China inventory</b>	Listed in IECSC
<b>Japan</b>	Listed in ENCS
<b>Korea</b>	Listed in ECL
<b>Mexico</b>	Listed in the National Inventory of Chemical Substances (INSQ).
<b>New Zealand Inventory</b>	Listed in NZIoC
<b>Philippines</b>	Listed in PICCS

### 16. Other information

**This data sheet contains changes from the previous version in section(s)**  
2 (US), 4 & 8 (REACH), 10, 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.

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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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*In an event of discrepancy between the contents of this SDS and the English version of it, the English version shall prevail.*

**Prepared by** HERA Division in ISRAEL  
telephone: +/972-8-6297835  
telefax: +/972-8-6297832  
www.icl-ip.com  
e-mail:msdsinfo@icl-ip.com

**End of safety data sheet**