



# EXOfos<sup>®</sup> series

Extreme Pressure Additives  
for Lubricating Oils  
and Metalworking Fluids

Local. Global. Integrated.



Operating in 17 countries, in 39 different locations, PCC SE currently employs over 3 300 people.













# About us

The PCC Group is an international capital structure made up of dozens of companies operating in three major sectors of the economy: Chemicals, Energy and Logistics. The organisations within the PCC Group are both business units engaged in production activities and service companies operating simultaneously for the external market.

The PCC Group is centrally managed by the German company PCC SE and comprises more than 74 companies at 39 locations in 17 countries around the world. One of the key elements of PCC SE's strategy is the dynamic development of the chemicals business by exploiting

the potential of new market segments and diversifying the portfolio of raw materials and chemical formulations in line with current trends in various industries. Every day, our specialists work on the stable growth and development of their organisations, making the PCC Group stronger and building a solid business platform for all contractors interested in reliable and longterm cooperation.

<b>PCC ROKITA SA</b> <b>PCC PCG</b> <b>OXYALKYLATES</b> <b>IRPC</b>	<b>PCC</b> <b>ROKITA SA</b>	<b>PCC</b> <b>ROKITA SA</b>	<b>PCC EXOL SA</b> <b>PCC CHEMAX INC</b> <b>PCC PCG OXYALKYLATES</b>	<b>PCC</b> <b>SYNTEZA</b>
<b>Polyols</b> 	<b>Chlorine</b> 	<b>Phosphorus</b> 	<b>Surfactants</b> 	<b>Alkylphenols</b> 
<ul style="list-style-type: none"> <li>• Polyether polyols</li> <li>• Polyester polyols</li> <li>• Prepolymers</li> <li>• Polyurethane Systems</li> </ul>	<ul style="list-style-type: none"> <li>• Chlorine</li> <li>• MCAA</li> <li>• Other Chlorine Downstream Product</li> </ul>	<ul style="list-style-type: none"> <li>• Phosphorus derivatives</li> <li>• Naphthalene derivatives</li> <li>• Polycarboxyethers (PCE)</li> </ul>	<ul style="list-style-type: none"> <li>• Anionic surfactants</li> <li>• Cationic surfactants</li> <li>• Nonionic surfactants</li> <li>• Amphoteric surfactants (betaines)</li> <li>• Chemical formulation</li> </ul>	<ul style="list-style-type: none"> <li>• Nonylphenol</li> <li>• Dodecylphenol</li> <li>• Tristyrylphenol</li> </ul>
<b>PCC CONSUMER PRODUCTS SA</b>	<b>PCC</b> <b>ROKITA SA</b>	<b>PCC</b> <b>INTERMODAL SA</b>	<b>PCC</b> <b>BAKKISILICON HF.</b>	<b>PCC</b> <b>SE</b>
<b>Consumer Products</b> 	<b>Energy</b> 	<b>Logistics</b> 	<b>Silicon</b> 	<b>Holding &amp; Projects</b> 
<ul style="list-style-type: none"> <li>• Household &amp; industrial Cleaners, Detergents and Personal Care Products</li> </ul>	<ul style="list-style-type: none"> <li>• Renewable Energy</li> <li>• Conventional Energy</li> </ul>	<ul style="list-style-type: none"> <li>• Intermodal transport</li> <li>• Road Haulage</li> <li>• Rail Transport</li> </ul>	<ul style="list-style-type: none"> <li>• Microsilica</li> <li>• Silicon Metal</li> </ul>	<ul style="list-style-type: none"> <li>• Portfolio Management</li> <li>• Project Development</li> </ul>

## General info & uses

**EXOfos® series** – acidic phosphate esters. EXOfos® products are very useful additives for lubricants due to their excellent extreme pressure (EP) properties, but they are also very effective emulsifiers for water-soluble metalworking fluids, corrosion inhibitors and wetting agents. Phosphate-esters are versatile products, used in many different

applications such as metalworking and metal cleaning, architectural finishes, textile wetting, and hard surface detergency. EXOfos® products are manufactured with inherent mono - and diester content and will have residual phosphoric acid, alkoxylated and non-alkoxylated alcohols.

### Benefits

- Excellent Extreme-Pressure (EP) properties
- Enhancing lubricity
- Corrosion control
- Good temperature resistance
- Compatible with a wide range of base oils
- Compatible with other additives
- Ashless

### Classification & labelling

In order to obtain this information, please refer to the Safety Data Sheets. These documents are available upon request from your sales representative.

### Storage & shelf life

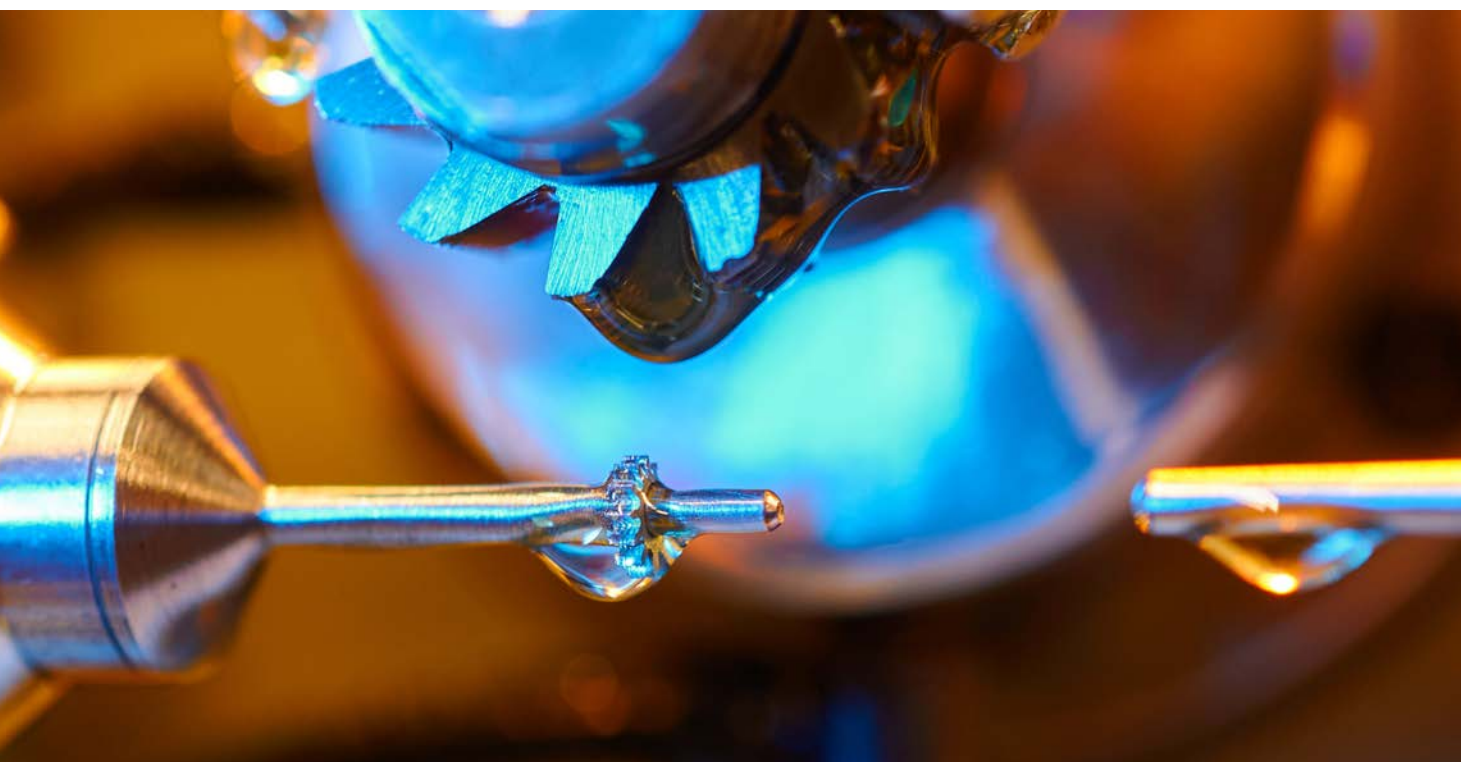
Please see our respective Technical Data Sheet for general safety guideline. These documents are available upon request from your sales representative.

### Applications

- Gear oils
- Metalworking fluids
- High-temperature lubricants

### Delivery

Tank wagons or tanker trucks made of stainless steel, plastic containers with a capacity of 1 m<sup>3</sup>, steel or plastic drums with a capacity of 200 dm<sup>3</sup> and other packaging as agreed with the customer.



## Products:

**EXOfos® PA-080S** – hydrophobic product with high content of phosphorus (11-12%), intended to be applied mainly in oils and greases. A suitable product to work with ferrous metals and aluminium. In addition, EXOfos® PA-080S supports corrosion inhibition on ferrous metals. One of the biggest advantages of this product is its anti-foaming property as an additive to mineral base oils.

**EXOfos® PA-810** – this product provides very good EP properties and good wetting capability. EXOfos® PA-810 has very low foaming profile in hard water solutions. Phosphorus content is below 1%.

**EXOfos® PA-1300** – highly hydrophobic additive intended to be applied mainly in oils and greases. EXOfos® PA-1300 exhibits extreme pressure (EP) as well as anti-wear (AW) properties, therefore it can be used as universal additive for application in wide range of conditions. EXOfos® PA-1300 is a suitable product for steel and aluminium materials.

**EXOfos® PB-043** – wetting agent and hydrotrope in hard surface cleaners and metal surface preparation formulations.

**EXOfos® PB-065** – is alkali compatible and exhibits wetting properties. The product is used as a hydrotrope mainly in alkaline environments and as a dispersing agent.

**EXOfos® PB-083** – product shows excellent wetting, hydrotroping and corrosion inhibition properties. EXOfos® PB-083 has strong emulsifying and dispersing properties, high cleaning efficiency and low foaming ability.

**EXOfos® PB-103** – recommended for aluminium and copper alloys. EXOfos® PB-103 provides good EP properties and also wetting capability. Product is stable in the alkaline environment. Phosphorus content is 6-7%.

**EXOfos® PD-103LP** – blend, recommended for steel, aluminium and copper alloys and hydrotrope. Product is stable in alkaline environment and compatible with anionic and nonionic surfactants. Phosphorus content is 6-7%.

**EXOfos® PB-133** – recommended as an additive to soluble oils and semi-synthetic metalworking fluids. Product provides good EP properties, it can be used in applications with materials like aluminium and copper. EXOfos® PB-133 is stable in the alkaline environment.

**EXOfos® PB-136** – recommended as an additive to soluble oils and semi-synthetic metalworking fluids. Product provides good EP properties, it can be used at work with materials such as aluminium and copper. EXOfos® PB-136 is a good wetting agent and exhibits great resistance to both acidic and alkaline environment.

**EXOfos® PB-139** – recommended as an additive to synthetic metalworking fluids. Water-soluble product, exhibits good wettability and resistance to both alkaline and acidic environment. EXOfos® PB-139 is a solubilising agent for water systems.

**EXOfos® PB-184** – phosphate-ester with 4-5% phosphorus content. Product with superb EP properties. Recommended as an additive for lubricants working at high loads and water miscible lubricants. The product has also a great emulsifying capability. EXOfos® PB-184 supports corrosion inhibition for steel, aluminium and copper materials.

**EXOfos® PB-253** – product designed especially for solvent-based applications. Soluble in many different organic solvents. EXOfos® PB-253 is a very good wetting agent and lubricating additive.

**EXOfos® PB-257** – has emulsifying and lubricating properties. Soluble in many different organic solvents. EXOfos® PB-257 is dispersing agent and it can be used as alternative to exchange nonylphenol ethoxylate based phosphate esters.

**EXOfos® PB-264** – multifunctional additive for neat oils and water-miscible lubricants. This product provides excellent extreme-pressure (EP) properties, as well as emulsifying capability and great resistance to the alkaline environment. EXOfos® PB-264 is a suitable product to work with materials such as aluminium or ferrous metals.

**EXOfos® PB-267** – phosphorus ester that exhibits emulsifying and lubricating properties. It is used in metalworking fluids. This product provides good extreme-pressure (EP) properties, as well as emulsifying capacity and great resistance to alkaline environment.

**EXOfos® PB-1016M** – is used in preparations for metalworking. This product has emulsifying, lubricating, low-foaming and anti-corrosion properties.

**EXOfos® PF-623** – works exceptionally well in synthetic and semisynthetic fluids due to good EP and lubricity properties. This ester also has good alkaline compatibility, wetting and detergency attributes.



## EXOfos® products for industrial use

Product	Paraffinic base oil	Naphthenic base oil	Rapeseed oil	Rapeseed oil methyl esters (RME)	Extraction naphtha
EXOfos® PA-080S	+	+	+	+	+
EXOfos® PA-810	+	+	+	—	+
EXOfos® PA-1300	+	+	+	+	+
EXOfos® PB-133	+	+	+	▲	▲
EXOfos® PB-136	●	+	●	+	+
EXOfos® PB-184	+	+	+	+	+
EXOfos® PB-253	▲	▲	+	+	+
EXOfos® PB-257	▲	●	●	+	—
EXOfos® PB-264	+	+	+	●	+
EXOfos® PB-267	▲	+	+	+	—
EXOfos® PB-1016M	+	▲	●	+	—

+ soluble

● partially soluble

▲ insoluble



## Typical properties

Product	CAS	INCI	Appearance <sup>1)</sup>	AV [mg KOH/g] <sup>3)</sup>	P-content [%] <sup>3)</sup>	pH value <sup>a)</sup>	Solidification point [°C] <sup>6)</sup>	Density at 25°C [g/cm³] <sup>3)</sup>	Viscosity at 25°C [cP]
EXOfos® PA-080S	12645-31-7	2-Ethylhexyl Phosphate	liquid	290-350	11-12	2.0-3.0 <sup>b)</sup>	<-20	~ 1.02	~ 150
EXOfos® PA-810	68186-45-8	Decyl octyl, phosphate	liquid	280-330	<1%	1.5-2.5	~ -14	1.0	~ 200
EXOfos® PA-1300	52933-07-0	Isotridecyl Phosphate	liquid	135-155	8-9	2.5-3.0 <sup>c)</sup>	<-20	~ 0.96	~ 600
EXOfos® PB-133	9046-01-9	PEG-3 isotridecyl phosphate	liquid	140-160	5-6	1.5-3.0 <sup>a)</sup>	<-20	~ 1.02	~ 700
EXOfos® PB-136	9046-01-9	PEG-6 isotridecyl phosphate	liquid	90-150	3-4	1.0-2.5 <sup>a)</sup>	~ -15	~ 1.05	~ 600
EXOfos® PB-184	39464-69-2	PEG-4 oleyl phosphate	liquid	135-160	4-5	2.0-3.0 <sup>b)</sup>	~ -4	~ 1.03	~ 2000
EXOfos® PB-253	68071-35-2	PEG-3 C12-15 alkyl phosphate	liquid	135-170	5-6	1.0-2.5 <sup>a)</sup>	~ +7	~ 1.01	~ 470
EXOfos® PB-257	68071-35-2	PEG-7 C12-15 alkyl phosphate	liquid	110-140	–	2.0-3.0 <sup>b)</sup>	~ +7	~ 1.05	~ 600
EXOfos® PB-264	68511-37-5	PEG-4 lauryl phosphate	liquid	150 – 180	6-7	2.0-3.0 <sup>b)</sup>	~ +2	~ 1.04	~ 750
EXOfos® PB-267	68511-37-5	PEG-7 lauryl phosphate	liquid	100-125	–	2.0-3.0 <sup>a)</sup>	~ +17	~ 1.05	~ 600
EXOfos® PB-1016M	68649-29-6	mono-C10-16-alkyl ethers	liquid	100-125	–	1.0-3.0 <sup>a)</sup>	~ -20	~ 1,05	~ 1200

1) Visual method at RT

2) PN-EN ISO 4630

3) In-house method

4) PN-ISO 4741 (modified)

5) PN-EN 1262

6) PN-ISO 1392

a - 1% in water

b - 1% in ethanol: water 50:50

c - 1% in ethanol: water 75:25

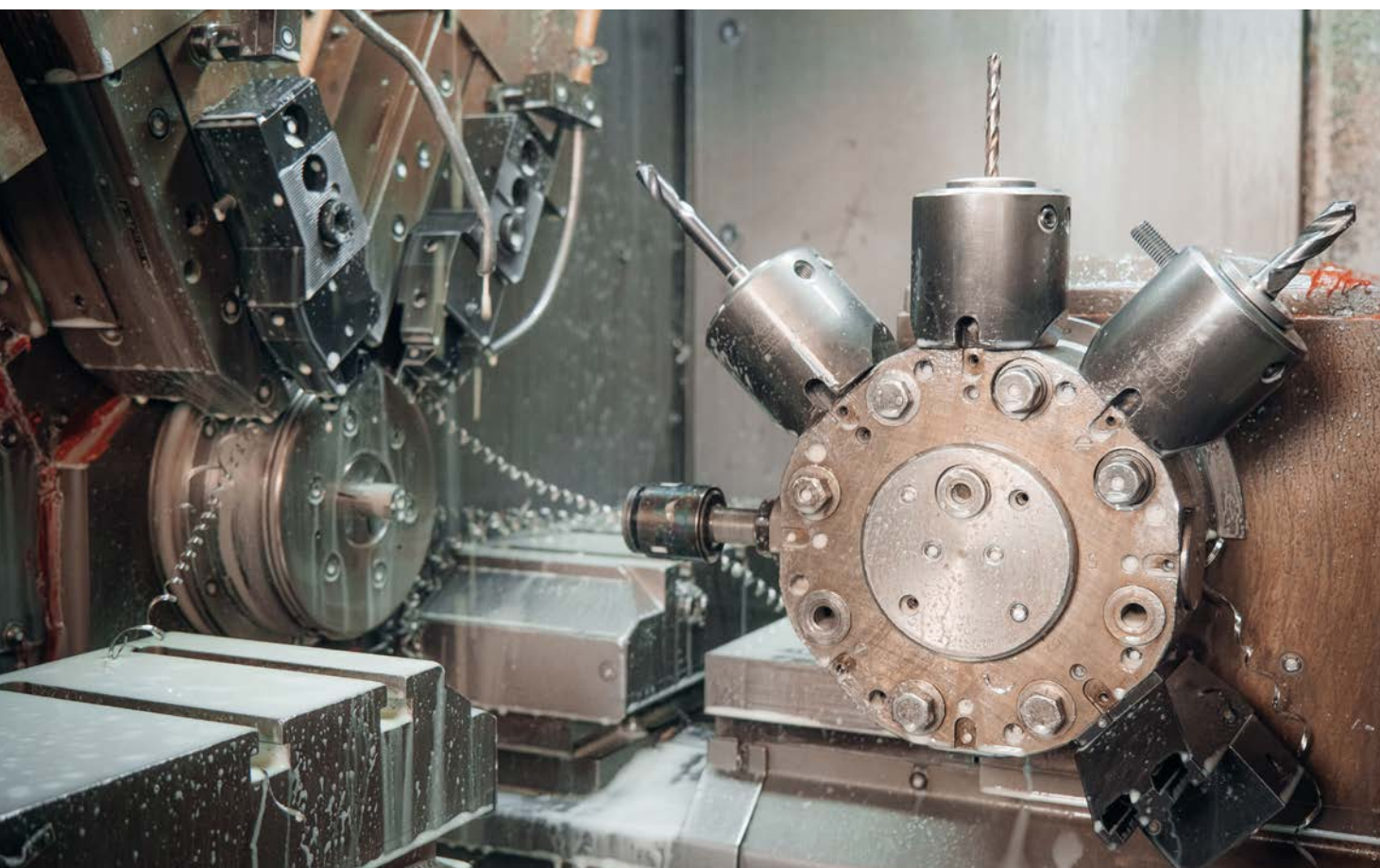
## Extreme-pressure performance

Four-ball extreme-pressure (EP) tests in paraffinic group I base oil according to ASTM D2783 (1760 rpm, 10 s)

Sample	Last nonseizure load [N]	Weld point [N]
Paraffinic base oil (ISO VG 22)	392	981
Base oil + 3% EXOfos® PA-080S	1236	1569
Base oil + 3% EXOfos® PA-810	981	1569
Base oil + 3% EXOfos® PA-1300	981	1236
Base oil + 3% EXOfos® PB-133	981	1569
Base oil + 3% EXOfos® PB-184	981	1961
Base oil + 3% EXOfos® PB-253	981	1961
Base oil + 3% EXOfos® PB-257	981	1961
Base oil + 3% EXOfos® PB-264	1236	1569
Base oil + 3% EXOfos® PB-1016M	1236	2453

Four-ball extreme-pressure (EP) tests in Rapeseed oil methyl esters (RME) or Rapeseed oil according to ASTM D2783 (1760 rpm, 10 s)

Sample	Last nonseizure load [N]	Weld point [N]
Rapeseed oil	784	1236
Rapeseed oil + 3% EXOfos® PB-103	1236	1569
Rapeseed oil + 3% EXOfos® PD-103LP	1236	1569
Rapeseed oil + 3% EXOfos® PB-1016M	981	1962
Rapeseed oil methyl esters (RME)	392	981
RME + 3% EXOfos® PB-136	784	1961
RME + 3% EXOfos® PB-257	981	1569
RME + 3% EXOfos® PB-267	1236	2453
RME + 3% EXOfos® PB-1016M	981	2453
RME + 3% EXOfos® PF-623	1236	1962





## EXOfos® products for metalworking industry

Product	Demineralized water	Methanol	Ethyl ether	Acetone
EXOfos® PA-080S	—	+	+	+
EXOfos® PA-810	—	+	+	+
EXOfos® PA-1300	—	+	+	+
EXOfos® PB-043	+	+	+	+
EXOfos® PB-065	+	+	▲	+
EXOfos® PB-083	●	+	▲	+
EXOfos® PB-103	●	+	+	+
EXOfos® PD-103LP	●	+	▲	+
EXOfos® PB-136	—	+	●	+
EXOfos® PB-139	+	+	▲	+
EXOfos® PB-184	—	●	▲	+
EXOfos® PB-253	—	+	+	+
EXOfos® PB-257	—	+	+	+
EXOfos® PB-264	—	+	+	+
EXOfos® PB-267	+	+	+	+
EXOfos® PB-1016M	—	+	+	+
EXOfos® PF-623	+	+	+	+

+ soluble

— soluble after neutralization

● partially soluble

▲ insoluble

## Typical properties

Product	CAS	INCI	Appearance <sup>1)</sup>	AV [mg KOH/g] <sup>3)</sup>	P-content [%] <sup>3)</sup>	pH value <sup>5)</sup>	Solidification point [°C] <sup>6)</sup>	Density at 25°C [g/cm <sup>3</sup> ] <sup>3)</sup>	Viscosity at 25°C [cP]
EXOfos® PA-80S	12645-31-7	2-Ethylhexyl Phosphate	liquid	290-350	11–12	2.0–3.0 <sup>b</sup>	<-20	~ 1.02	~ 150
EXOfos® PA-810	68186-45-8	Decyl octyl, phosphate	liquid	280-330	<1	1.5-2.5	~ -14	~ 1.0	~ 200
EXOfos® PA-1300	52933-07-0	Isotridecyl Phosphate	liquid	135-155	8-9	2.5-3.0 <sup>c</sup>	<-20	~ 0.96	~ 600
EXOfos® PB-043	50769-39-6	Butyl Alcohol Ethoxylate, Phosphate	liquid	200-250	—	~2.0 <sup>a</sup>	~ +12	~ 1.13	—
EXOfos® PB-065	68585-15-9	C6-C10 alcohols, ethoxylated, phosphate	liquid	160-210	—	~2.0 <sup>a</sup>	~ -10	~ 1.1	—
EXOfos® PB-083	68439-39-4	PEG-3 2-Ethylhexyl Phosphate	liquid	180-200	—	~2.0 <sup>a</sup>	<0	~ 1.08	~ 700
EXOfos® PB-103	52019-36-0	PEG-3 decyl phosphate	liquid	160-190	6-7	2.0-2.5 <sup>a</sup>	<-20	~ 1.06	~ 250
EXOfos® PD-103LP	—	PEG-3 decyl phosphate and Alkoxylated alcohols	liquid	130-160	—	2.0-3.0 <sup>a</sup>	<-30	~ 1.00	~ 240
EXOfos® PB-136	9046-01-9	PEG-6 isotridecyl phosphate	liquid	90-150	3-4	1.0-2.5 <sup>a</sup>	~ -15	~ 1.05	~ 600
EXOfos® PB-139	9046-01-9	PEG-9 isotridecyl phosphate	liquid	87-117	3-4	2.0-3.0 <sup>a</sup>	~ -2	~ 1.07	—
EXOfos® PB-184	39464-69-2	PEG-4 oleyl phosphate	liquid	135-160	4-5	2.0–3.0 <sup>b</sup>	~ -4	~ 1.03	~ 2000
EXOfos® PB-253	68071-35-2	PEG-3 C12-15 alkyl phosphate	liquid	135-170	5-6	1.0-2.5 <sup>a</sup>	~ +7	~ 1.01	~ 470
EXOfos® PB-257	68071-35-2	PEG-7 C12-15 alkyl phosphate	liquid	110-140	—	2.0-3.0 <sup>b</sup>	~ +7	~ 1.05	~ 600
EXOfos® PB-264	68511-37-5	PEG-4 lauryl phosphate	liquid	150 – 180	6-7	2.0–3.0 <sup>b</sup>	~ +2	~ 1.04	~ 750
EXOfos® PB-267	68511-37-5	PEG-7 lauryl phosphate	liquid	100–125	—	2.0–3.0 <sup>a</sup>	~ +17	~ 1.05	~ 600
EXOfos® PB-1016M	68649-29-6	mono-C10-16-alkyl ethers	liquid	100-125	—	1.0-3.0 <sup>a</sup>	~ -20	~ 1,05	~ 1200
EXOfos® PF-623	68130-47-2	C8 – C10 alcohol, ethoxylated, phosphate	liquid	165-190	—	2.0–3.0 <sup>a</sup>	<-20	~ 1.08	—

1) Visual method at RT

2) PN-EN ISO 4630

3) In-house method

4) PN-ISO 4741 (modified)

5) PN-EN 1262

6) PN-ISO 1392

a - 1% in water

b - 1% in ethanol: water 50:50

c - 1% in ethanol: water 75:25

## Ferrous materials corrosion tests:

### Herbert method (PN-M-55789)

Steel chips are placed on cast iron plate and wetted with analysed solution. The corroded area is evaluated after 24 h.

The results are in the range of H0 to H6, where H0 is the best

result, H6 – the worst. Tests performed for products neutralized by triethanolamine to pH value 7-8 in demineralized water.

Concentration	EXOfos® PB-264	EXOfos® PA-080S	EXOfos® PB-184	EXOfos® PB-139	EXOfos® PA-1300	EXOfos® PB-103	EXOfos® PB-133
5%	H0	H0	H0	H0	H0	H0	H3
3%	H2	H2	H0	H4	H4	H4	H4

### Chip/filter paper method (DIN-51360)

Cast iron chips are placed on filter paper and wetted with the test solution for 3 hours, then are removed and the filter paper is left to dry. After 24 hours, the corroded area is evaluated according to the

scale in the DIN standard. Tests performed with EXOfos® products neutralized by triethanolamine to pH value 7-8 both in demineralized and hard water.

Product	Demineralized water		Hard water 20d	
	Concentration	Result	Concentration	Result
EXOfos® PA-080S/TEA	1%	0	1%	0
EXOfos® PA-810/TEA	1%	0	1%	0
EXOfos® PA-1300/TEA	1%	0	1%	0
EXOfos® PB-043/TEA	1%	4	1%	4
EXOfos® PB-065/TEA	1%	2	1%	3
EXOfos® PB-083/TEA	1%	0	1%	2
EXOfos® PB-103/TEA	1%	0	1%	1
EXOfos® PD-103LP/TEA	1%	2	1%	2
EXOfos® PB-136/TEA	1%	1	1%	2
EXOfos® PB-139/TEA	1%	2	1%	4
EXOfos® PB-184/TEA	1%	0	1%	2
EXOfos® PB-253/TEA	1%	1	1%	3
EXOfos® PB-257/TEA	1%	2	1%	4
EXOfos® PB-264/TEA	1%	0	1%	1
EXOfos® PB-267/TEA	1%	1	1%	4
EXOfos® PB-1016M/TEA	1%	0	1%	3
EXOfos® PF-623/TEA	1%	1	1%	2

In comparison demineralized water result – 4, hard water 20d result – 4.



## Copper corrosion tests

### Copper corrosion according to ASTM D130-18

Method for evaluating the effect of lubricants on the copper surface.  
Copper plate placed in the sample for analysis, temperature 50°C,

duration 3 hours. Evaluation of changes in the appearance of the plate according to the standard.

Product	Demineralized water		Hard water 20d	
	Concentration	Result	Concentration	Result
EXOfos® PA-080S/TEA	1%	1a	1%	1a
EXOfos® PA-810/TEA	1%	1a	1%	1a
EXOfos® PA-1300/TEA	1%	1b	1%	1a
EXOfos® PB-043/TEA	1%	1a	1%	1a
EXOfos® PB-065/TEA	1%	1b	1%	2a
EXOfos® PB-083/TEA	1%	1a	1%	1a
EXOfos® PB-103/TEA	1%	1a	1%	1a
EXOfos® PD-103LP/TEA	1%	1a	1%	2a
EXOfos PB-136/TEA	1%	1a	1%	1a
EXOfos® PB-139/TEA	1%	1a	1%	1b
EXOfos® PB-184/TEA	1%	1a	1%	1a
EXOfos® PB-253/TEA	1%	1a	1%	1b
EXOfos® PB-257/TEA	1%	1a	1%	1b
EXOfos® PB-264/TEA	1%	1a	1%	1a
EXOfos® PB-267/TEA	1%	1a	1%	1a
EXOfos® PB-1016M/TEA	1%	1a	1%	1b
EXOfos® PF-623/TEA	1%	1a	1%	1b

In comparison demineralized water result – 2b, hard water 20d result – 3a.

## Corrosive effect on aluminum surface

### Proprietary method:

Sample is immersed in solution of corrosion inhibitor for duration of the test. Prepared sample is kept in a drier with settled temperature

of 40°C for 2 weeks. After that time surface of the plate is evaluated based on standardized scale below:

Corrosion rate	Description of corrosion effect
0	No visible corrosion
1a	Passivation between 1-50% of the plate surface (in gaseous phase)
1b	Passivation between 50-100% of the plate surface (in gaseous phase)
2a	Passivation between 1-50% of the plate surface (in aqueous phase)
2b	Passivation of the plate within a range of 50-100% of the plate surface (in aqueous phase)
3	Passivation of the plate surface in both the aqueous and gaseous phases
4	Plate passivation and exfoliation corrosion, characterized with solid particles in aqueous solution

Product	Demineralized water		Hard water 20d	
	Concentration	Result	Concentration	Result
EXOfos® PA-080S/TEA	1%	1b	1%	1b
EXOfos® PA-810/TEA	1%	1b	1%	1a
EXOfos® PA-1300/TEA	1%	0	1%	0
EXOfos® PB-043/TEA	1%	1b	1%	2a
EXOfos® PB-065/TEA	1%	1b	1%	2a
EXOfos® PB-083/TEA	1%	1a	1%	1b
EXOfos® PB-103/TEA	1%	1a	1%	0
EXOfos® PD-103LP/TEA	1%	1b	1%	2a
EXOfos® PB-136/TEA	1%	1b	1%	2a
EXOfos® PB-139/TEA	1%	1b	1%	1b
EXOfos® PB-184/TEA	1%	0	1%	0
EXOfos® PB-253/TEA	1%	1b	1%	1b
EXOfos® PB-257/TEA	1%	1b	1%	1b
EXOfos® PB-264/TEA	1%	1a	1%	0
EXOfos® PB-267/TEA	1%	—	1%	—
EXOfos® PB-1016M/TEA	1%	1b	1%	1b
EXOfos® PF-623/TEA	1%	1b	1%	1b

In comparison demineralized water result – 3, hard water 20d result – 4.

## Anionic phosphate ester, acids and their salts – product list

Product	CAS	Chemical name
EXOfos® PA-0805	12645-31-7	2-Ethylhexanol, phosphate
EXOfos® PA-1300	52933-07-0	Isotridecyl phosphate
EXOfos® PB-043	50769-39-6	Butyl Alcohol Ethoxylate, Phosphate
EXOfos® PB-043K	—	Butyl Alcohol Ethoxylate, Phosphate, potassium salt
EXOfos® PB-065	68585-15-9	C6-C10 alcohols, ethoxylated, phosphate
EXOfos® PB-083	68439-39-4	PEG-3 2-Ethylhexyl Phosphate
EXOfos® PB-103	52019-36-0	PEG-3 decyl phosphate
EXOfos® PB-133	9046-01-9	PEG-3 isotridecyl phosphate
EXOfos® PB-136	9046-01-9	PEG-6 isotridecyl phosphate
EXOfos® PB-137	73038-25-2	PEG-7 isotridecyl phosphate
EXOfos® PB-138	9046-01-9	PEG-8 isotridecyl phosphate
EXOfos® PB-139	9046-01-9	PEG-9 isotridecyl phosphate
EXOfos® PB-184	39464-69-2	PEG-4 oleyl phosphate
EXOfos® PB-1810	39464-69-2	Alcohols, C16-18, ethoxylated, phosphates
EXOfos® PB-253	68071-35-2	PEG-3 C12-15 alkyl phosphate
EXOfos® PB-257	68071-35-2	PEG-7 C12-15 alkyl phosphate
EXOfos® PB-264	68511-37-5	PEG-4 lauryl phosphate
EXOfos® PB-267	68511-37-5	PEG-7 lauryl phosphate
EXOfos® PB-269	68511-37-5	PEG-9 lauryl phosphate
EXOfos® PF-623	68130-47-2	C8 – C10 alcohol, ethoxylated, phosphate
EXOfos® PD-103LP	—	Mixture: PEG-3 decyl phosphate and Alkoxyated alcohols
EXOfos® PB-104K	68070-99-5	PEG-4 decyl phosphate, potassium salt







**PCC Group**

Sienkiewicza 4

56-120 Brzeg Dolny, Poland

[products@pcc.eu](mailto:products@pcc.eu)

Please visit our capital group business platform:

[www.products.pcc.eu](http://www.products.pcc.eu)



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The information in the catalogue is believed to be accurate and compiled to the best of our knowledge; however, it should be considered as introductory only. Detailed information about our products is available in TDS and MSDS.

The suggestions for product applications are based on our best knowledge.

The responsibility for the use of products in conformity or otherwise with the suggested application, and for determining product suitability for the user's own purposes rests with the user.

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