

Chemical Sector in Poland

Sector profile



Polish Information and Foreign Investment Agency 2013

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Table of content

Global overview of the sector	3
Sector overview in Poland	4
Human capital in the chemical sector	5
Investments, mergers and takeovers	8
Available forms of public assistance	9
Clusters	11
Formal and legal determinants	12
Testimonial	13
Trade fairs	13
Main institutions and industry organizations	14
Contact details for investors	15

Global overview of the sector

The global trends in the chemical sector position Poland in a promising point between the growing competition from Asian countries and the sector in Europe. In 2012 50 the largest concern reached \$ 961,8 billion revenue. At the moment the key markets are Asia and North America.

Since the mid-1980s the global chemical industry was growing at a rate of approx. 7% per annum to reach EUR 2.4 trillion in 2010. The prevailing part of this growth is attributable to Asian countries which currently account for nearly a half of the global sales of chemical industry products and by 2030 may win 2/3 of the world market.

It is expected that in the next two decades the world chemical markets will grow at an average rate of 3% per year, driven mainly by the activity of China and the Middle East, while the European market will only grow by a mere 1% per year.¹ It is expected that in our continent, East Central Europe, including Poland, will see the most rapid growth of the chemical sector.²

The chemical sector is very prone to current economic situation. Nearly 70% of total sale comes to other industries and only 30% comes directly to consumers. Thus, the branch is thought to be a sector running the whole economy. Furthermore, chemical products are used by big industrial enterprises as well as individual clients – from the everyday consumption goods to manufacturing process of oils, fertilizers or plant protection products. This fact only stresses the sector's importance.

In Poland chemical industry has great development opportunities. Sector's participation in the whole country's industry production is below the average level in other states. Europe's manufacture constitutes about 24% of global chemical production while Poland's only 2%. At the same time Poland is the country standing the greatest chance to take advantage of shale gas. Licences of shale gas searching were distributed by the Ministry of Environment.

After Poland's accession to the EU, the domestic chemical industry has become clearly interested in investments in improving energy-efficiency and complying with strict environmental requirements, including those related to emission. Further investments will have been implemented in development. The pace of changes in Polish chemistry entitles to state that this is one of the most pro-investments branch of industry.

¹ Chemical Industry Vision 2030. A European Perspective, A.T. Kearney 2012.

² Swift, T.K., Gilchrist Moore, M., Bhatia, Si inni, Mid-Year 2011 Situation & Outlook, American Chemistry Council 2011.

Sector overview in Poland

Sold production of Polish chemical industry in 2012 was equal 131 billion złoty. In the middle of 2013 the number of companies was **11 thousands**. More than 70% of them were active in rubber and plastic processing. In the chemical segment we may observe significant concentration. Key producers in Poland are companies with a share of Treasury.

The Polish chemical sector has a **longstanding tradition**. Enough is to mention the founder of the petroleum sector, Ignacy Łukasiewicz. It was in Poland that petroleum was first used on a mass scale. Currently, the dominant sectors of the chemical industry are the **petrochemical, plastics and fertilizer sectors**. The share of the pharmaceutical and cosmetics industry is still relatively small as compared to the above three.

Recently, the chemical industry has become clearly interested in investments in improving **energy-efficiency and complying with strict environmental requirements**, including those related to emission. This, on the one hand, stems from the pressure to increase profitability and productivity and, on the other, from increasingly restrictive environmental standards. The pace of changes in the Polish chemical industry validates the claim that it is **one of the most investment-oriented sectors**. In total industrial production, the chemical sector is second only to the food industry.

Table 1. Sub-sectors of the Polish chemical industry

Production of chemicals	Production of rubber products and products from plastics
<ul style="list-style-type: none"> • Basic chemicals (organic and inorganic products and semi-finished products) • Pesticides and other chemicals for agriculture • Paints and varnishes • Pharmaceutical products • Products of applied chemistry • Explosives, glues, gelatin and photographic chemistry • Synthetic fibers 	<ul style="list-style-type: none"> • Rubber products • Products from plastics

Source: PAliiZ, 2013

Table 2. Polish chemical production sold in mln PLN

	2009	2010	2011	2012
Production of chemical products	36 473	41 874	52 208	57 923
Production of rubber products and and plastics	43 109	49 986	60 477	63 016
Production of pharmaceutical products	10 646	11 623	10 765	10 458

Source: GUS 2013

Table 3. The largest chemical companies at the end of 2012

Company	Participation in market	Profits (mln PLN)	Assets (mln PLN)
Grupa Azoty, Zakłady Azotowe Puławy S.A.	6,51%	3 662.10	3 027.60
Grupa Azoty, Zakłady Chemiczne Police S.A.	5,26%	2 956.84	1 518.22
Grupa Azoty S.A.	3,55%	1 996.17	2 887.64
BORYSZEW S.A.	1,41%	793.49	1 038.70
ŚNIEŻKA Fabryka Farb i Lakierów S.A.	0,84%	473.12	307.97
SELENA FM S.A.	0,61%	343.32	383.92
HARPER HYGIENICS S.A.	0,41%	232.94	175.49
Synthos S.A.	0,17%	96.35	1579.98
Miraculum S.A.	0,09%	50.91	68.71
PERMEDIA S.A.	0,03%	19.16	30.82
Average	1,89%	1 062.44	1 016.22

Source: EMIS EconTrends, Manufacture of Chemicals and Chemical Products. Q1, 2013

Human capital in the chemical sector

In 2012, the chemical sector provided **nearly a quarter million jobs** (247 thousand), with a general upwards tendency. The growth dynamics throughout 2010-2012 was negative only in the case of the production of pharmaceutical products. Recently, **labor productivity in the entire chemical sector has also grown**, reaching the highest level for the production of chemicals (PLN 786 thousand per person in 2012).

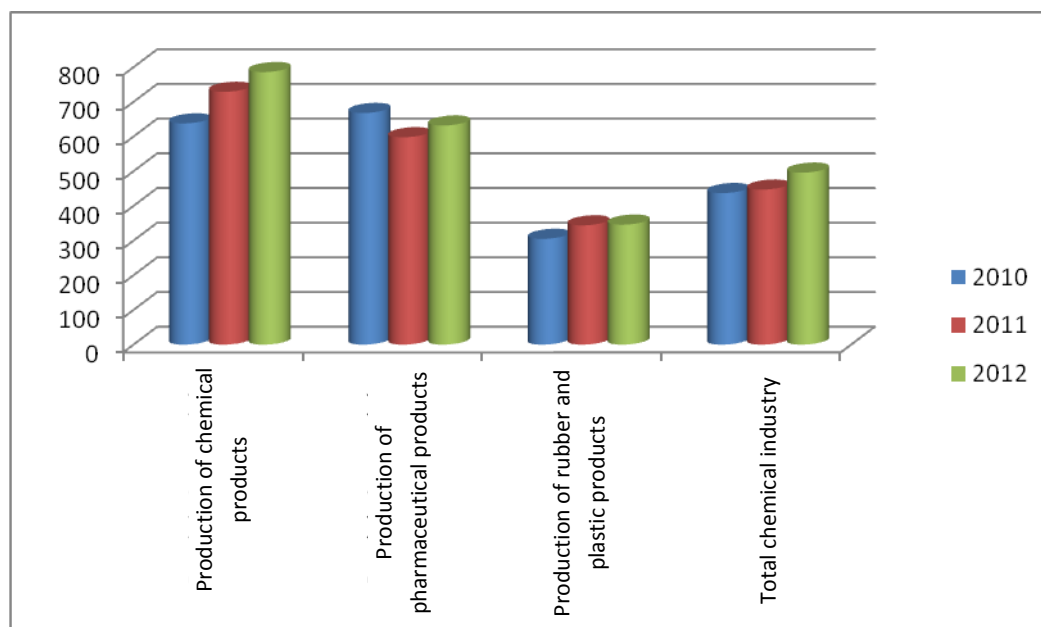
Compared to EU countries, the productivity of the Polish employee of the chemical industry (after taking into account wages) is, apart from Lithuania, the highest and amounts to EUR PLN 257.4 thousand per person. At the same time, average personnel costs, amounting to EUR 14.5 thousand per person are one of the lowest in EU countries.

Table 4. Average employment in the chemical sector in thousands persons throughout 2010-2012

Category	Average employment (in thousands of persons)			Change 2012/2011
	2010	2010	2010	
Production of chemical products	68	68	68	101.4
Production of pharmaceutical products	23	23	23	95.5
Production of rubber products and plastics	144	144	144	101.3
Total	235	235	235	100.8

Source: GUS, 2013

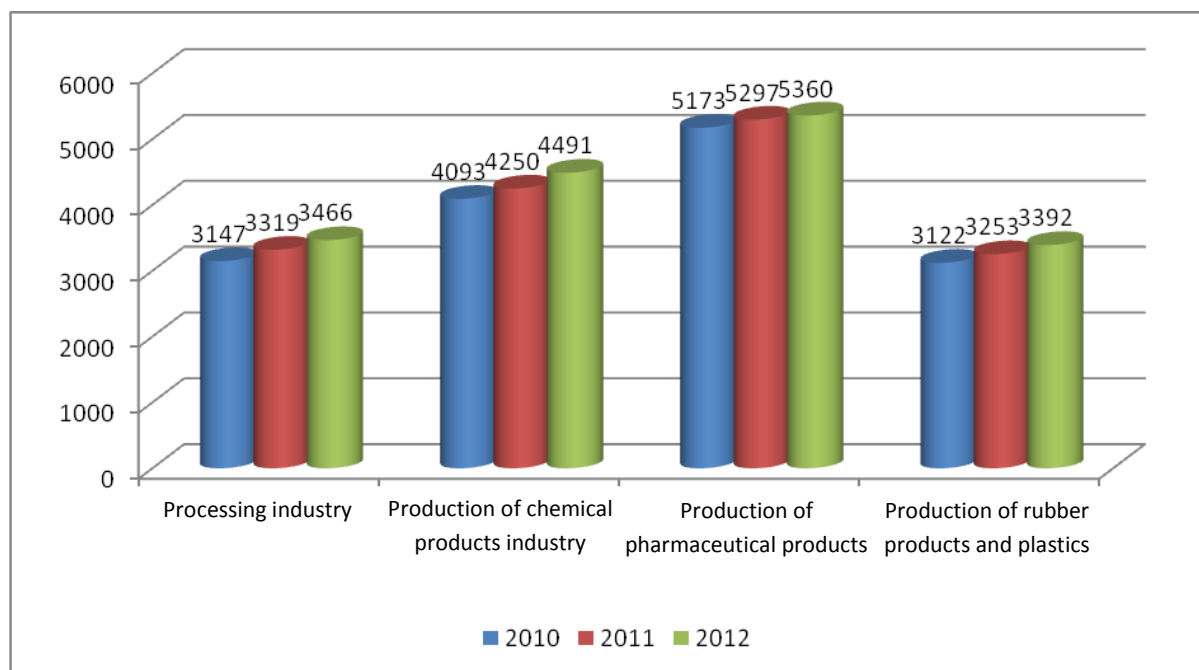
Figure 1. Labor productivity in the chemical industry throughout 2010-2012 in PLN thousands per person



Source: Polish Chamber of Chemical Industry, GUS, 2013

The realities of the chemical market are also reflected in the structure of secondary and vocational education. From among 252 schools with an extended chemical curriculum, 218 are secondary technical schools and post-secondary education centers with a pharmaceutical curriculum. In 2012 54000 persons majored in biology and physics, with majority on full-time courses on state universities.

Figure 2. Change of wages in the processing industry and chemical industry



Source: GUS, 2013

Table 5. Technical and vocational schools educating for the purposes of the chemical sector

Specialty	Level	Number of schools	Main locations
Chemical technology technician	secondary technical school	11	Kujawsko-pomorskie, Śląskie, Lubelskie, Podkarpackie voivodeships
Pharmaceutical technician	secondary technical school / post-secondary school	218	all of Poland
Chemical industry machine and equipment operator	vocational school	14	all of Poland
Plastics processing machine and equipment operator	vocational school	4	Wielkopolskie and Dolnośląskie voivodeships
Plastic processing machine and equipment operator	vocational school	5	Śląskie, Dolnośląskie and Wielkopolskie voivodeship

Source: Education Information Center 2013

Investments, mergers and takeovers

Consolidation, especially of great chemical synthesis plants and shifting production towards cheaper raw materials are vital trends on the world chemical markets. These are also noticeable in Poland. In 2012 **Grupa Azoty S.A.** was created, the group comprises Zakłady Azotowe Kędzierzyn w Tarnowie-Mościcach S.A., Zakłady Azotowe Puławy S.A., Zakłady Chemiczne Police S.A., Zakłady Azotowe Kędzierzyn S.A. and their subsidiaries. This currently **is the second-largest fertilizer group in the EU.**

Consolidation allows for leveraging **economies of scale** (synergy effects are already estimated for approx. PLN 100 million) and through an alliance with the Lotos petrochemical group, diversification of production and increasing resilience to fluctuations in the economy. It may also allow for the improvement of the trade balance of the sector in the long-term.

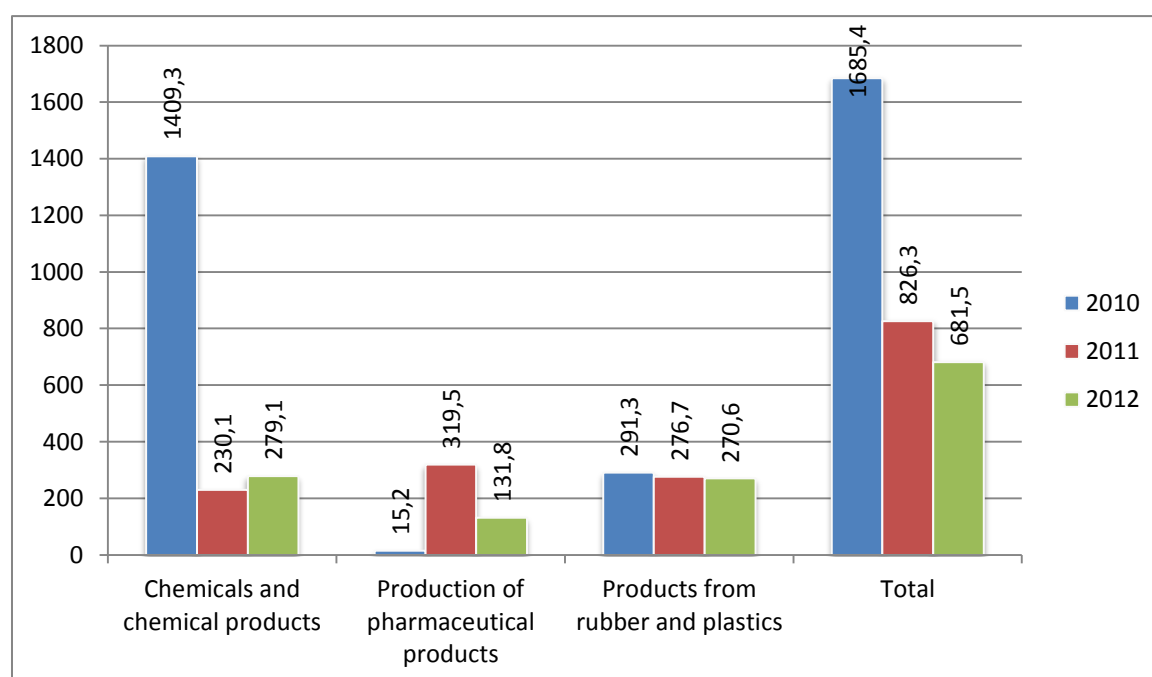
The chemical sector is also an interesting **target for foreign direct investment (FDI)**. Despite considerable volatility in the inflow of FDI, the recent years saw a constant interest in the sector. 2010 was marked by significant capital acquisitions in the chemicals and chemical products industry. In 2011, the sector received a total of EUR 826.3 million in FDI, and in 2012 EUR 681 million.

German BASF acquired from the Polish Ciech Group the production of TDI and started building a catalyst factory in Środa Śląska which after completion will be the largest plant of such type in Europe. The Ciech Group announced narrow specialization in the production of soda (**currently second place in Europe**).

The **value of foreign investment** to date (until the end of 2012) amounted to EUR 10.25 billion and investor profits due to FDI in the sector in 2012 are estimated at EUR 1.16 billion.³

³ NBP 2013.

Figure 3. FDI inflow to the Polish chemical sector (EUR mln)



Source: National Bank of Poland

Throughout 2003-2013 the Polish Information and Foreign Investment Agency acquired for Poland 33 investment projects from the chemical industry, including 17 classified as the chemical sector, 12 as the production of plastics and 4 as the production of rubber products and tires. Their total value amounted to EUR 1.11 billion. These contributed to the creation of over 5.1 thousand new jobs.

Available forms of public assistance

Entrepreneurs carrying out new investment projects in Poland may take advantage of various forms of investment incentives granted as part of public assistance, in particular:

- tax exemptions in Special Economic Zones (SEZ),
- exemptions from local taxes, including property tax,
- government grants for strategic investments,
- support from EU funds,
- tax incentives for the acquisition of new technologies, and research and development,
- technology and industrial parks.

The primary tax incentive is exemption from income tax in one of 14 special economic zones that will remain active until 2026. Each zone has numerous sub-zones in various parts of Poland. In the special economic zones investors may count on the availability of attractive investment lands equipped with the necessary utility infrastructure and comprehensive assistance in legal and administrative procedures related to their project.

Communes also incentives have at their disposal – they are authorized to grant exemptions from local taxes and levies, including property tax.

Cash subsidies for the support of new investments come from the State budget (government grants) and EU funds.

Government grants (for the creation of new jobs and investments) are granted under the Program for supporting investments of major importance to the Polish economy for the years 2011–2020 for investments in the following sectors:

- automotive,
- electronic,
- aviation,
- biotechnology,
- modern services,
- research and development activity.

Moreover, considerable investments from other sectors (creating at least 200 new jobs with qualified costs of at least PLN 750 million or creating at least 500 new jobs with qualified costs of at least PLN 500 million) may also be eligible for support under the Program.

As a member of the EU, Poland is the largest beneficiary of support from EU funds. The funds are allocated to, among others, innovative investments, research and development, infrastructural projects, environment protection, renewable sources of energy, employee trainings.

Throughout 2007-2013 Poland had at its disposal approx. EUR 67 billion and in the new 2014-2020 budget this will be approx. EUR 73 billion. The priority in the new budget will be to support the research and development activity of enterprises.

As the investment incentives are available under various programs, and vary in terms of conditions and availability in time, we suggest contacting the Polish Information and Foreign Investment Agency to obtain current information about available incentive packages.

Clusters

Tarnów Industrial Center

The main goal of the cluster is to create conditions to entice companies from the chemical, construction and electrical sector to locate production projects in Tarnów. Among 37 shareholders, there are among others: the Tarnów Commune, communes of the former Tarnowskie voivodeship, Zakłady Azotowe w Tarnowie-Mościcach S.A., Zakłady Mechaniczne "Tarnów" S.A., Industrial and Trade Chamber in Tarnów, as well as the Craftsmanship Chamber and the Small and Medium Entrepreneurship Chamber. The investors attracted to the cluster include, among others: Becker Farby Przemysłowe Sp. z o.o. and Elmark – Tarnów (plastics processing).

Contact details:

ul. Słowackiego 33-37, 33-100 Tarnów
 +48 14 627 75 93, +48 14 627 75 93
 sekretariat@tkp.com.pl
 www.tkp.com.pl

Pomeranian BioEcoChemical Cluster

The Pomeranian BioEcoChemical Cluster (BioEcoChem) associates Pomeranian representatives of the following sectors: biotechnology, chemistry, pharmacy, cosmetics and environment protection. The cluster's assets include very strong research and development base, the potential of which is built by the three largest Pomeranian universities: University of Gdańsk, Gdańsk University of Technology and the Medical University of Gdańsk. The cluster also host two administrative institutions (the Pomeranian Special Economic Zone and the Gdynia Innovation Center) which manage two science and technology parks in the Tricity (Gdańsk, Gdynia and Sopot).

Contact details:

BioBaltica Sp. z o.o.
 ul. Trzy Lipy 3, 80-172 Gdańsk
 + 48 58 739 71 77 / +48 58 739 71 17
 biobaltica@biobaltica.pl
 www.bioecochem.pl

West Pomeranian Chemical Cluster "Green Chemistry"

The West Pomeranian Chemical Cluster "Green Chemistry" is an association of persons and institutions whose goal is to integrate the community of West Pomeranian entrepreneurs from the chemical sector and related companies, and cooperating with this sector. Companies have own experimental laboratories and cooperate with the R&D area. The cluster is the ambassador of efforts to promote specialized research labs and science services, has common products and intensively develops their line.

The most important products promoted by this cluster include: an innovative photocatalytic paint – anti-allergic, resistant to washing, high-performance, permeable to steams and gases; polymer material for the Polish cardiac valve; materials for hydrogen technologies, nanofillers for polymeric materials and technical utilization of waste from polymeric

materials; modern intelligent fertilizers, innovative dry polyelectrolyte and emulsions and water solutions for draining and thickening of sludge on all types of devices; titanium white - the only titanium dioxide (TiO₂) pigment in Poland.

Contact details:

West Pomeranian Chemical Cluster
Al. Piastów 18, 70-310 Szczecin
+48 91 852 36 31
zielona.chemia@vp.pl
www.zielonachemia.eu

Specialized Chemistry Cluster "CHEM-STER"

The Specialized Chemistry Cluster "CHEM-STER" was launched in August 2013. The main goal of the cluster is to tighten cooperation between research units, companies and the business environment with a view to develop and carry out R&D projects, acquire funds to finance them, and the joint promotion of the brand of the Cluster outside. The cluster was founded by the Institute of Heavy Organic Synthesis „Blachownia" and Kędzierzyńsko-Kozielski Park Przemysłowy Sp. z o.o. It associates, among others: the Opole University, BELMAR Sp. z o.o., Centrum Badawczo-Produkcyjne „ALCOR" Sp. z o.o., EUROL Innovative Technology Solutions Sp. z o.o., SOLVECO S.A., Petrochemia- Blachownia S.A., RUETGERS Poland Sp. z o.o., Zakłady Chemiczne WARTER Sp. z o.o., SITPChem O/K-Koźle, ICSO Chemical Production Sp. z o.o., MEXEO Wiesław Hreczuch, Laboratorium Badawcze Blachownia Sp. z o.o., ROWIS-SYSTEM s.j. M. Siemiński and St. Wilk, and Advantum Investments Sp. z o.o.

Contact details:

Kędzierzyńsko-Kozielski Park Przemysłowy Sp. z o.o.
ul. Szkolna 1547-225 Kędzierzyn-Koźle
tel.: +48 (77) 488 62 15
fax: +48 (77) 488 69 28
e-mail: biuro@kkpp.pl

Formal and legal determinants

As a part of the economy of the European Union, the Polish chemical sector is a subject to EU regulations: the Regulation concerning the registration, evaluation, authorization and restriction of chemicals (REACH), the Regulation concerning the classification, labelling and packaging of substances and mixtures (CLP) and the Regulation concerning the establishment of a European pollutant release and transfer register (PRTR).

Production of chemicals, chemical products, rubber and plastics products are not licensed activities. Special permissions are only required in the case of the production of medicinal products (pharmaceutical sector). They are issued by the Chief Pharmaceutical Inspector⁴.

⁴ *Chemical Sector in Time and Space. Evaluation of the Standing of Adaptability of the Sector*, Business Centre Club/ BAA Polska Sp. z o.o. 2011, pp. 11-14.

Testimonial

Choosing Poland for 20 years.

“To date, 3M has invested over 350 million dollars in Poland. This year we opened 2 new factories in Wrocław. Poland will account for 70% of our export production to Central and Eastern European countries. The qualified staff, and the stable economic situation make Poland a great place to grow for such companies as 3M.”

Xavier Douellou,
CEO,
3M Poland

Trade fairs

Name	Location	Date	Contact
EXPOCHEM International Chemical Industry Fair and Conferences	Katowice	February	http://www.expochem.pl/expochem@ztw.pl
EPLA Plastics and Rubber Processing Fair	Poznań	March	http://www.epla.pl/en/epla@mpt.pl
EuroLAB International Trade Fair of Analytical, Measurement and Control Technology	Warsaw	March	http://www.targieurolab.pl/pskoneczka@mttargi.pl
PLASTPOL International Fair of Plastics and Rubber Processing	Kielce	May	http://www.targikielce.pl/index.html?k=plastpol&s=index plastpol@targikielce.pl
ExpoLab Fair of Lab Analysis, Technology and Equipment	Sosnowiec	October	http://www.exposilesia.pl/expolab/0/0/pl/agnieszka.miklas@exposilesia.pl
OILexpo Fair of Oils, Lubricants and Technological Fluids	Sosnowiec	November	http://www.exposilesia.pl/oilexpo/0/0/uk/malgorzata.mazur@exposilesia.pl
RubPlast EXPO Plastics and Rubber Industry Fair	Sosnowiec	November	http://www.exposilesia.pl/rubplast/11/0/uk/tomasz.wacirz@exposilesia.pl
kompozyt-expo Composites, Technology and Machines for the Production of Composite Materials Trade Fair	Cracow	November	http://targi.krakow.pl/pl/strona-glowna/targi/4-targi-kompozytow-technologie-i-maszyn-do-produkcji-materialow-kompozytowych-kompozyt-expo/gurgul@targi.krakow.pl

Source: PAIiZ, 2013.

Main institutions and industry organizations

Institutions

Chemical Substances Office

Chemical Substances Inspector

ul. Dowborczyków 30/34

90-019 Łódź

Tel.: +48 42 2538 400/401

Fax: +48 42 2538 444

biuro@chemikalia.gov.pl

<http://www.chemikalia.gov.pl>

National REACH Information Center

Ministry of the Economy

Innovation and Industry Department

Pl. Trzech Krzyży 3/5, 00-507

Warszawa

tel. +48 22 693 42 61, +48 22 693 50

62

fax +48 22 693 40 84

e-mail: REACH@mg.gov.pl

reach@reach-info.pl ,

www.mg.gov.pl/REACH

www.reach-info.pl

<http://reach.gov.pl/info>

Scientific insitutes

Industrial Chemistry Institute

ul. Rydygiera 8, 01-793 Warszawa

Tel.: +48 22 568 20 00, fax +48 22 568

23 90

e-mail: ichp@ichp.pl

<http://www.ichp.pl>

Institute of Fertilizers

Al. 1000-lecia Państwa Polskiego 13a,

24-110 Puławy

Tel.: +48 81 473 14 00, tel./fax +48 81

473 14 10

e-mail: sekretariat@ins.pulawy.pl

<http://www.ins.pulawy.pl>

Institute of Heavy Organic Synthesis

„BLACHOWNIA”

ul. Energetyków 9, 47-225 Kędzierzyn-Koźle

tel. +48 77 487 34 70, fax +48 77 487

30 60

e-mail: info@icso.com.pl

<http://www.icso.com.pl>

Organic Industry Institutes

ul. Annopol 6, 03-236 Warszawa

tel. +48 22 811 12 31, fax +48 22 811

07 99

e-mail: ipo@ipo.waw.pl

<http://www.ipo.waw.pl>

Institute for Engineering of Polymer Materials and Dyes

87-100 Toruń, ul. Marii Skłodowskiej-Curie 55

Curie 55

tel/fax: +48 56 650-03-33, +48 56 650-

00-44

email: sekretariat@impib.pl

<http://www.impib.pl/>

Industry organizations

Polish Chamber of Chemical Industry

ul. Śniadeckich 17

00-654 Warszawa

tel. +48-22)828-75-06, 828-75-07

fax. +48-22 112-06-41

e-mail: pipec@pipec.org.pl

Polish Associations of Plastics Processors

ul. Zbyszka Cybulskiego 3, 00-727

Warszawa

Tel.: +48 603 626 656

e-mail: office@tworzywa.org.pl

<http://www.pzpts.com.pl>

Associations of Manufacturers of Construction Chemistry

ul. Topolowa 3, Kraków 31-512

tel.: +48 600 33 88 60

e-mail: biuro@spchb.pl

<http://www.spchb.pl/>

PlasticsEurope Foundations Poland

ul. Trębacka 4, pok. 109, 00-074

Warszawa

Tel: +48 22 630 99 01

Fax: +48 22 630 99 10

info.pl@plasticseurope.org

<http://www.plasticseurope.org>

Polish Research Laboratories Club

ul. Kłobucka 23A/104, 02-699

Warszawa

tel. +48 22 46 45 503, kom.

607 114 307

fax +48 22 46 45 556

e-mail: sekretariat@pollab.pl

<http://pollab.pl/>

Polish Technical Gases Foundation

ul. Pory 59

02-757 Warszawa

tel. +48 22 440 32 90

fax +48 22 440 32 91

e-mail: biuro@pfgt.org.pl

<http://www.pfgt.org.pl>

Industry Portals and Magazines

Industrial Chemistry

ul. Morcinka 35, 47-400 Racibórz

tel. +48 32 415 97 74 wew. 32

kom. 602 115 264

e-mail: chemia@e-bmp.pl

<http://www.chemia.e-bmp.pl>

**Chemistry and Business Cosmetics
and Household Chemistry Market**

ul. Miklaszewskiego 6/64, 02-776

Warszawa

tel./faks: +48 22 253 81 01

redakcja@chemiaibiznes.com.pl

www.chemiaibiznes.com.pl

Magazine of Plastics Processors

ul. Plebiscytowa 1/305, 44-100 Gliwice

tel. +48 32 231 30 31

fax +48 32 401 24 30

e-mail: reklama@tworzywa.org.pl

<http://www.gazeta.tworzywa.com.pl>

**Witrualny Nowy Przemysł
Section: Chemistry**

<http://chemia.wnp.pl/>

Contact details for investors

Polish Information and Foreign Investment Agency

Foreign Investment Department,

Ul. Bagatela 12, 00-585 Warszawa, Polska

Tel. (+48) 22 334 9875, fax (+48) 22 334 99 99

e-mail: invest@paiz.gov.pl