

## THE FACILITY

The Łukasiewicz Research Network - Institute of Industrial Organic Chemistry (Łukasiewicz - IPO), Branch Pszczyna is a leading research and development centre with more than 70 years of tradition which performs a wide variety of toxicological and ecotoxicological studies. The Łukasiewicz - IPO conducts studies for companies worldwide, cooperates with both domestic and foreign research units as well as actively participates in the international EU and OECD research projects.

Our professional laboratories are equipped with the state-of-the-art instrumentation, whereas our scientific staff consists of a group of well-educated and experienced specialists.



## QUALITY

Our Institute is the first in Poland to hold the Statement of GLP Compliance for all offered tests. The GLP Certificate guarantees that our studies are accepted worldwide, and their results are of great practical and scientific value. We are recognized for our services worldwide. We assure that the ordered studies will be conducted at the highest quality level and in compliance with the OECD, EU, EMA, ICH, EPA, EPPO, SETAC, FDA, ESCORT, IOBC, BART, ISO Guidelines.

## COMPREHENSIVENESS

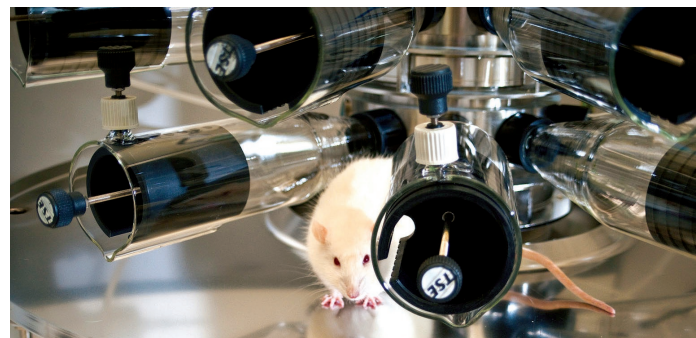
We conduct studies with a number of organisms. These include:

**Mammals:** rats, mice, guinea pigs, rabbits. **Birds:** Japanese quail. **Fish:** rainbow trout, carp, zebrafish. **Insects:** bees: *Apis mellifera*; bumblebees: *Bombus terrestris*; solitary bees: *Osmia rufa*; dung beetle: *Aphodius constans*; Other beneficial arthropods: *Aphidius rhopalosiphii*, *Typhlodromus pyri*, *Pardosa sp.*, *Coccinella septempunctata*, *Chrysoperla carnea*, *Hypoaspis aculeifer*,

Sediment-dwelling dipteran: *Chironomus riparius*. **Soil macroorganisms:** earthworms: *Eisenia fetida*; Springtails: *Folsomia candida*. **Soil microorganisms.** **Aquatic organisms:** Crustaceans: *Daphnia magna*, Aquatic plants: *Lemna minor*, *Lemna gibba*; *Myriophyllum spicatum*, *Myriophyllum aquaticum*, *Potamogeton crispus*, *Elodea canadensis*, *Egeria densa*, *Lagarosiphon major*. **Diatoms:** *Navicula pelliculosa*, *Skeletonema costatum*. **Cyanobacteria:** *Anabaena flos-aquae*. **Algae:** *Raphidocelis subcapitata* (formerly *Pseudokirchneriella subcapitata*), *Desmodesmus subspicatus*, *Chlorella sp.* **Models of epidermal tissues and ocular, cell lines of human and other mammals origin** as well as isolated organs, e.g. chicken eye.

## VERSATILITY

Toxicological and ecotoxicological studies are crucial to assess the safety of chemical substances for human and animal health as well as the natural environment. The Łukasiewicz - IPO Branch Pszczyna conducts the studies which are necessary for the registration and licensing processes. They are also required to meet some other regulations concerning the following products: plant protection products, pharmaceutical products, veterinary medicinal products, food and feed additives, industrial chemicals, biocides, industrial wastes, cosmetics.



## ANIMAL WELFARE

We are included in the national register of institutions entitled to conduct experiments on animals. Our studies comply with the principles of the 3Rs (Replacement, Reduction, Refinement). We have been granted full accreditation by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) International Council.



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## MISSION

We conduct scientific research as well as research and development works for the sake of human health and the environment. Cooperation with clients based on mutual reliance is our utmost advantage. Drawing on the long history and experience of our professionals we meet the expectations of clients providing innovative solutions and expertise in the field of toxicology and ecotoxicology.

## VISION

We aspire to be a significant partner in the global research markets in the field of toxicology and ecotoxicology.

## OUR PROFESSIONAL APPROACH

We guarantee individual approach to the Client, full confidentiality, efficiency, reliability, fast implementation, competitiveness and world-class level reports.

Łukasiewicz Research Network – Institute  
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# Contract Research in compliance with GLP

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The list of our standard studies.  
*Some other studies may be introduced and conducted on request.*

TOXICOLOGICAL STUDIES	METHOD
Acute oral/ intraperitoneal/ subcutaneous/ intravascular toxicity	OECD No. 420/ EU B.1.BIS
Acute oral/ intraperitoneal/ subcutaneous/ intravascular toxicity – acute toxic class method	OECD No. 423/ EU B.1.TRIS
Acute dermal toxicity	OECD No. 402/ EU B.3
Acute inhalation toxicity	OECD No. 403
Acute inhalation toxicity – acute toxic class method	OECD No. 436/ EU B.52
<i>In vitro</i> skin corrosion: transcutaneous electrical resistance test (TER)	OECD No. 430/ EU B.40
<i>In vitro</i> skin corrosion: reconstructed human epidermis (RHE) test method	OECD No. 431/ EU B.40.BIS
<i>In vitro</i> skin irritation: reconstructed human epidermis test method	OECD No. 439/ EU B.46
Acute dermal irritation/ corrosion	OECD No. 404/ EU B.4
<i>In vitro</i> eye corrosion: isolated chicken eye test method for identifying i) chemicals inducing serious eye damage, and ii) chemicals not requiring classification for eye irritation or serious eye damage	OECD No. 438/ EU B.48
Short time exposure <i>in vitro</i> test method for identifying i) chemicals inducing serious eye damage and ii) chemicals not requiring classification for eye irritation or serious eye damage	OECD No. 491/ EU B.68
Reconstructed human cornea-like epithelium (RhCE) test method for identifying chemicals not requiring classification and labelling for eye irritation or serious eye damage	OECD No. 492
Acute eye irritation/ corrosion	OECD No. 405/ EU B.5
Skin sensitisation: local lymph node assay (LLNA): BrdU-ELISA	OECD No. 442B/EU B.51
<i>In chemico</i> skin sensitisation, Direct peptide reactivity assay (DPRA)	OECD No. 442C/EU B.59
<i>In vitro</i> skin sensitisation: ARE-Nrf2 Luciferase test method (KeratoSens™)	OECD No. 442D/ EU B.60
<i>In vitro</i> skin sensitization: Human cell line activation test (H-CLAT)	OECD No. 442E//EU B.71
Skin sensitisation	OECD No. 406/ EU B.6
Maximum tolerated dose test (MTD)	-
Dose range finding (DRF)	-
Repeated dose 28-day oral/ intraperitoneal/ subcutaneous/ intramuscular toxicity study in rodents	OECD No. 407/ EU B.7
Repeated dose dermal toxicity: 21/28 day study	OECD No. 410/ EU B.9
Repeated dose 90-day oral toxicity study in rodents	OECD No. 408/ EU B.26
Subchronic dermal toxicity: 90-day study	OECD No. 411/ EU B.28
Chronic toxicity studies	OECD No. 452/ EU B.30
Carcinogenicity studies	OECD No. 451/ EU B.32
Combined chronic toxicity/ carcinogenicity studies	OECD No. 453/ EU B.33
Prenatal developmental toxicity study	OECD No. 414/ EU B.31
Reproduction/ developmental toxicity screening test	OECD No. 421
Combined repeated dose toxicity study with the reproduction/ developmental toxicity screening test	OECD No. 422
Extended one-generation reproductive toxicity study	OECD No. 443/ EU B.56
Two-generation reproduction toxicity study	OECD No. 416/ EU B.35
Neurotoxicity study in rodents	OECD No. 424/ EU B.43
Local tolerance test	EMA/CHMP/SWP/2145/2000, ISO 10993-10
<i>In vitro</i> cytotoxicity test	ISO 10993-5
Use of the 3T3 neutral red uptake cytotoxicity test to estimate starting doses for acute oral systemic toxicity tests	OECD Series on Testing and Assessment No. 129 (2010) (ENV/JM/MONO(2010)20)

<i>In vitro</i> 3T3 NRU phototoxicity test	OECD No. 432
Toxicological studies conducted according to the procedures agreed with the sponsor	-
GENOTOXICITY	
Bacterial reverse mutation test (Ames test, microplate format)	OECD No. 471/EU B.13/14
<i>In vitro</i> micronucleus test on the mammalian cell line	OECD No. 487/EU B.49
<i>In vitro</i> mammalian cell gene mutation test using the HPRT genes	OECD No. 476/EU B.17
<i>In vivo</i> mammalian erythrocyte micronucleus test	OECD No. 474/EU B.12
<i>In vivo</i> mammalian cell gene mutation test using the thymidine kinase gene	OECD No. 490/EU B.67
ECOTOXICOLOGICAL STUDIES	METHOD
AQUATIC TOXICOLOGY	
Freshwater algae and cyanobacteria, growth inhibition test	OECD No. 201/ EU C.3
<i>Lemna sp.</i> growth inhibition test	OECD No. 221/ EU C.26
Sediment-free Myriophyllum spicatum toxicity test	OECD No. 238
Water–sediment ( <i>Myriophyllum spicatum</i> ) macrophytes toxicity test	OECD No. 239
<i>Daphnia magna</i> , acute immobilisation test	OECD No. 202/ EU C.2
<i>Daphnia magna</i> reproduction test	OECD No. 211/ EU C.20
Sediment–water chironomid toxicity using spiked sediment	OECD No. 218
Sediment–water chironomid toxicity using spiked water	OECD No. 219
Sediment–water chironomid life-cycle toxicity test using spiked water or spiked sediment	OECD No. 233
<i>Chironomus sp.</i> , acute immobilisation test	OECD No. 235
Fish, acute toxicity test	OECD No. 203/ EU C.1
Fish, early-life stage toxicity test	OECD No. 210
Fish, short-term toxicity test on embryo and sac-fry stages	OECD No. 212/ EU C.15
Fish, juvenile growth test	OECD No. 215/ EU C.14
Bioaccumulation in fish: aqueous and dietary exposure	OECD No. 305/ EU C.13
21-day fish assay	OECD No. 230
Fish embryo acute toxicity (FET) test	OECD No. 236
Simulated freshwater lentic field test (outdoor microcosms and mesocosms)	OECD GD 53, ENV/JM/MONO(2006)17
AVIAN TOXICOLOGY	
Avian dietary toxicity test	OECD No. 205
Avian acute oral toxicity test	OECD No. 223
Avian repellency test	OECD draft
SOIL TOXICOLOGY	
Terrestrial plant test, seedling emergence and seedling growth test	OECD No. 208
Terrestrial plant test, vegetative vigour test	OECD No. 227
Earthworm, acute toxicity test	OECD No. 207/ EU C.8
Earthworm, reproduction test	OECD No. 222
Collembolan, reproduction test in soil	OECD No. 232
Predatory mite <i>Hypoaspis (Geolaelaps) aculeifer</i> reproduction test in soil	OECD No. 226
Soil microorganisms: nitrogen transformation test	OECD No. 216/ EU C.21
Soil microorganisms: carbon transformation test	OECD No. 217/ EU C.22

APITOXICOLOGY AND BENEFICIAL ARTHROPOD TESTING	
Honeybees, acute oral toxicity test	OECD No. 213/ EU C.16
Honeybees, acute contact toxicity test	OECD No. 214/ EU C.17
Honeybees, larval toxicity test, single exposure	OECD No. 237
Honeybees, larval toxicity test, repeated exposure	OECD GD 239
Honeybees, chronic oral toxicity test (10-day feeding)	OECD No. 245
Bumblebees, acute oral toxicity test	OECD No. 247
Bumblebees, acute contact toxicity test	OECD No. 246
Solitary bees, acute oral toxicity test	OECD No. 213, “floral” method
Solitary bees, acute contact toxicity test	OECD No. 214, ring-test protocol
A laboratory test or extended laboratory test for evaluating the effects of plant protection products on the parasitic wasp, <i>Aphidius rhopalosiphi</i>	SETAC; ESCORT I, ESCORT II; IOBC/BART/ EPPO
A laboratory test or extended laboratory test for evaluating the effects of plant protection products on the predatory mite, <i>Typhlodromus pyri</i>	SETAC; ESCORT I, ESCORT II; IOBC/BART/ EPPO
A laboratory test for evaluating the effects of plant protection products on the spider, <i>Pardosa</i>	SETAC; ESCORT I, ESCORT II; IOBC/BART/ EPPO
A laboratory test or extended laboratory test for evaluating the effects of plant protection products on the seven spotted ladybird beetle, <i>Coccinella septempunctata</i>	ESCORT 1, ESCORT 2, IOBC, BART, EPPO
A laboratory test or extended laboratory test for evaluating the effects of plant protection products on the green lacewing, <i>Chrysoperla carnea</i>	ESCORT 1, ESCORT 2, IOBC, BART, EPPO
Aged residue test on the parasitic wasp, <i>Aphidius rhopalosiphi</i>	ESCORT 1, ESCORT 2, IOBC, BART, EPPO
Aged residue test on the green lacewing, <i>Chrysoperla carnea</i>	ESCORT 1, ESCORT 2, IOBC, BART, EPPO
Aged residue test on the seven spotted ladybird beetle, <i>Coccinella septempunctata</i>	ESCORT 1, ESCORT 2, IOBC, BART, EPPO
Aged residue test on the predatory mite, <i>Typhlodromus pyri</i>	ESCORT 1, ESCORT 2, IOBC, BART, EPPO
FATE AND BEHAVIOUR IN THE ENVIRONMENT AND ANALYTICAL CHEMISTRY	
Ready biodegradability	OECD No. 301D, F
Inherent biodegradability: Zahn-Wellens/ EMPA test	OECD No. 302B/ EU C.9
Activated sludge, respiration inhibition test	OECD No. 209/ EU C.11
Aerobic and anaerobic transformation in soil	OECD No. 307/ EU C.23
Leaching in soil columns	OECD No. 312
Development and validation of the analytical method in water, soil, sediment, plant and animal materials	SANTE; SANCO
Stability of pesticide residues in stored commodities	OECD No. 506
Bioaccumulation in Terrestrial Oligochaetes	OECD No. 317
PHYSICO-CHEMICAL PROPERTIES	
Water solubility	OECD No. 105
Solubility in organic solvents	CIPAC MT 181
Adsorption - desorption using batch equilibrium method	OECD No. 106/ EU C.18
Partition coefficient (n-octanol/water): shake flask method	OECD No. 107
Hydrolysis as a function of pH	OECD No. 111
Partition coefficient (n-octanol/water), HPLC method	OECD No. 117
Estimation of the adsorption coefficient (KOC) on soil and on sewage sludge using high performance liquid chromatography (HPLC)	OECD No. 121

