

## AstraZeneca's Environmental Risk Summaries

As part of AstraZeneca's ongoing commitment to environmental data transparency, this website provides environmental risk summaries for the Active Pharmaceutical Ingredients (API) found in our core brands. The summaries are consistent with the environmental information provided as part of our marketing applications, or where this is not available, from currently available data including scientific literature where appropriate.

For each API the potential environmental risk is calculated from the ratio between the Predicted Environmental Concentration (PEC) of the API in the aquatic environment (e.g. rivers) and the Predicted No Effect Concentration (PNEC) which is the concentration, based on available tests, below which no adverse effects on the ecosystem are expected to occur. The PEC has been calculated using a worst case scenario, assuming no metabolism by the patient or removal during sewage treatment, and using the total sales volumes for drug in the European country with the highest per capita use<sup>1</sup>. The sales volumes are based on all human medicines containing the same active ingredient, including products marketed by other companies, where applicable.

The environmental risk is divided into four different categories in our assessments, depending on the PEC/PNEC ratio. The categories, described below, are consistent with the classification system for environmental information on [www.fass.se](http://www.fass.se), the web version of the Swedish Prescribing guide.

The risk categories are as follows:

PEC/PNEC ≤ 0.1	Use of the substance has been considered to result in insignificant environmental risk.
0.1 < PEC/PNEC ≤ 1	Use of the substance has been considered to result in low environmental risk.
1 < PEC/PNEC ≤ 10	Use of the substance has been considered to result in moderate environmental risk.
PEC/PNEC > 10	Use of the substance has been considered to result in high environmental risk.

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<sup>1</sup> Per capita use calculated from kg sales data provided by IMS Health, MIDAS International Data 2005-2015 ([www.imshealth.com](http://www.imshealth.com)) for 22 European markets (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Romania, Slovakia, Spain, Sweden, Switzerland and United Kingdom unless otherwise stated), and population data taken from Eurostat (<http://ec.europa.eu/eurostat>).

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## Environmental risk data relating to our medicines

The tables below provide an overview of the environmental risk of AstraZeneca's medicines. This information will be updated, if appropriate, as new data become available.

### Cardiovascular

For information on the individual pharmaceutical click on the compound name in the table below.

Brand name	Generic name	Therapy area	Environmental Risk
Tenormin, Tenormine, Prenormine, Atenol	<a href="#">Atenolol (PDF 151kb)</a>	Cardiovascular	Insignificant
Nif-Ten (atenolol - nifedipine)	<a href="#">Atenolol (PDF 151kb)</a>	Cardiovascular	Insignificant
Tenoretic (atenolol - chlorthalidone)	<a href="#">Atenolol (PDF 151kb)</a>	Cardiovascular	Insignificant
Atacand	<a href="#">Candesartan cilexetil (PDF 237kb)</a>	Cardiovascular	Insignificant
Atacand Plus (candesartan cilexetil – hydrochlorothiazide)	<a href="#">Candesartan cilexetil (PDF 237kb)</a>	Cardiovascular	Insignificant
Tenoretic (atenolol - chlorthalidone)	<a href="#">Chlorthalidone (PDF 150kb)</a>	Cardiovascular	*
Forxiga**	<a href="#">Dapagliflozin (PDF 129kb)</a>	Cardiovascular	Insignificant
Lexxel (enalapril maleate - felodipine)	<a href="#">Enalapril Maleate (PDF 153kb)</a>	Cardiovascular	*
Bydureon, Byetta,	<a href="#">Exenatide (PDF 102kb)</a>	Cardiovascular	**
Plendil, Modip, Splendil, Munobal, Flodil	<a href="#">Felodipine (PDF 162kb)</a>	Cardiovascular	Low
Unimax (felodipine - ramipril)	<a href="#">Felodipine (PDF 162kb)</a>	Cardiovascular	Low
Lexxel (enalapril maleate - felodipine)	<a href="#">Felodipine (PDF 162kb)</a>	Cardiovascular	Low
Logimax (felodipine-metoprolol)	<a href="#">Felodipine (PDF 162kb)</a>	Cardiovascular	Low
Zestoretic (lisinopril dihydrate - hydrochlorothiazide)	<a href="#">Hydrochlorothiazide (PDF 152kb)</a>	Cardiovascular	Insignificant
Atacand Plus (candesartan cilexetil – hydrochlorothiazide)	<a href="#">Hydrochlorothiazide (PDF 152kb)</a>	Cardiovascular	Insignificant
Imdur, Coleb-Duriles, Duronitrin, Monodur, Pertil Retard, Promocard 60 Durettes	<a href="#">Isosorbide-5-mononitrate (PDF 140kb)</a>	Cardiovascular	*

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Zestoretic (lisinopril dihydrate - hydrochlorothiazide)	<a href="#">Lisinopril Dihydrate (PDF 117kb)</a>	Cardiovascular	Insignificant
Zestril	<a href="#">Lisinopril Dihydrate (PDF 117kb)</a>	Cardiovascular	Insignificant
Kombiglyze, Kombiglyze XR, Xigduo, Xigduo XR	<a href="#">Metformin Hydrochloride (PDF 384kb)</a>	Cardiovascular	Low
Logimax (felodipine-metoprolol)	<a href="#">Metoprolol Succinate (PDF 147kb)</a>	Cardiovascular	Low
Seloken ZOK, Toprol-XL, Betaloc ZOK, Betaloc. Seloken	<a href="#">Metoprolol Succinate (PDF 147kb)</a>	Cardiovascular	Low
Nif - Ten (atenolol - nifedipine)	<a href="#">Nifedipine (PDF 150kb)</a>	Cardiovascular	*
Inderal, Inderal LA, Avlocardyl, Avlocardyl retard, Dociton, Inderalici, Sumial	<a href="#">Propranolol Hydrochloride (PDF 247kb)</a>	Cardiovascular	Low
Unimax (felodipine - ramipril)	<a href="#">Ramipril (PDF 142kb)</a>	Cardiovascular	Insignificant
Crestor	<a href="#">Rosuvastatin Calcium (PDF 249kb)</a>	Cardiovascular	Insignificant
Onglyza***	<a href="#">Saxagliptin (PDF 139kb)</a>	Cardiovascular	Insignificant
Brilinta, Brilique	<a href="#">Ticagrelor (PDF 241kb)</a>	Cardiovascular	Insignificant

\*Limited data available. See pdf document.

\*\*Environmental Risk Assessments have been carried out and the API is considered to represent a very low environmental risk.

\*\*\**Onglyza* and *Forxiga* have been developed by an alliance between AstraZeneca and Bristol-Myers Squibb.

### Gastrointestinal

For information on the individual pharmaceutical click on the compound name in the table below.

Brand name	Generic name	Therapy area	Environmental Risk
Entocort	<a href="#">Budesonide (PDF 158kb)</a>	Gastrointestinal	Insignificant
Nexium	<a href="#">Esomeprazole and Omeprazole (PDF 136kb)</a>	Gastrointestinal	Insignificant
Losec, Gastroloc, Mopral, Omepral, Prilosec	<a href="#">Esomeprazole and Omeprazole (PDF 136kb)</a>	Gastrointestinal	Insignificant

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### Infection and Vaccines

For information on the individual pharmaceutical click on the compound name in the table below.

Brand name	Generic name	Therapy area	Environmental Risk
Fluenz Tetra	<a href="#">Influenza vaccine, live (PDF 152kb)</a>	Vaccine	**
Merrem/Meronem	<a href="#">Meropenem (PDF 126kb)</a>	Infection	Insignificant
Zinforo*	<a href="#">Ceftaroline (PDF 108kb)</a>	Infection	Insignificant

\*\* Environmental Risk Assessments have been carried out and the API is considered to represent a very low environmental risk.

### Neuroscience

For information on the individual pharmaceutical click on the compound name in the table below.

Brand name	Generic name	Therapy area	Environmental Risk
Marcaïne/Sensorcaïne	<a href="#">Bupivacaine Hydrochloride (PDF 162kb)</a>	Neuroscience	*
Xylocaïne	<a href="#">Lidocaine Hydrochloride Monohydrate (PDF 111kb)</a>	Neuroscience	Insignificant
Carbocaine	<a href="#">Mepivacaine Hydrochloride (PDF 143kb)</a>	Neuroscience	*
Movantik, Moventig	<a href="#">Naloxagol (PDF 369kb)</a>	Neuroscience	Insignificant
Vimovo	<a href="#">Naproxen (PDF 511kb)</a>	Neuroscience	Low
Citanest	<a href="#">Prilocaine Hydrochloride (PDF 167kb)</a>	Neuroscience	Insignificant
Diprivan	<a href="#">Propofol (PDF 241kb)</a>	Neuroscience	Low
Seroquel	<a href="#">Quetiapine Fumarate (PDF 141kb)</a>	Neuroscience	Insignificant
Naropin	<a href="#">Ropivacaine Hydrochloride Monohydrate (PDF 108kb)</a>	Neuroscience	Insignificant
Zomig, Zomig Rapimelt, Zomig Nasal Spray, AscoTop, Zomigon	<a href="#">Zolmitriptan (PDF 132kb)</a>	Neuroscience	Insignificant

\*Limited data available. See pdf document.

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## Oncology

For information on the individual pharmaceutical click on the compound name in the table below.

Brand name	Generic name	Therapy area	Environmental Risk
Arimidex	<a href="#">Anastrozole (PDF 124kb)</a>	Oncology	Insignificant
Casodex, Cosudex	<a href="#">Bicalutamide (PDF 122kb)</a>	Oncology	Insignificant
Faslodex	<a href="#">Fulvestrant (PDF 137kb)</a>	Oncology	Low
Iressa	<a href="#">Gefitinib (PDF 150kb)</a>	Oncology	Insignificant
Zoladex	<a href="#">Goserelin (PDF 107kb)</a>	Oncology	Insignificant
Nolvadex, Istubal, Valodex	<a href="#">Tamoxifen (PDF 197kb)</a>	Oncology	Insignificant
Caprelsa	<a href="#">Vandetanib (PDF 125kb)</a>	Oncology	Insignificant
Lynparza	<a href="#">Olaparib (PDF 128kb)</a>	Oncology	Insignificant

## Respiratory

For information on the individual pharmaceutical click on the compound name in the table below.

Brand name	Generic name	Therapy area	Environmental Risk
Bambec, Oxeol	<a href="#">Bambuterol Hydrochloride (PDF 93kb)</a>	Respiratory	Insignificant
Pulmicort, Spirocort, Rhinocort	<a href="#">Budesonide (PDF 158kb)</a>	Respiratory	Insignificant
Symbicort (budesonide – formoterol)	<a href="#">Budesonide (PDF 158kb)</a>	Respiratory	Insignificant
Oxis	<a href="#">Formoterol Fumarate Dihydrate (PDF 157kb)</a>	Respiratory	Insignificant
Symbicort	<a href="#">Formoterol Fumarate Dihydrate (PDF 157kb)</a>	Respiratory	insignificant
Symbicort (budesonide – formoterol)	<a href="#">Formoterol Fumarate Dihydrate (PDF 157kb)</a>	Respiratory	insignificant
Bricanyl	<a href="#">Terbutaline Sulphate (PDF 109kb)</a>	Respiratory	Insignificant
Accolate, Accoleit, Vanticon	<a href="#">Zafirlukast (PDF 134kb)</a>	Respiratory	Insignificant