

## Environmental Status of LIGHTAIR IonFlow 50 air purifier

LightAir has carried out a Life Cycle Assessment (LCA) to analyze the environmental aspects of LightAir IonFlow 50 air purifier. Acquired information for the whole life cycle, is compiled in a model (SimaPro®) to calculate the sum of environmental aspects and to assess the potential environmental effects. Please ask for the complete report.

### The life cycle of the air purifier is environmentally friendly in the following ways:

- The air purifier is filter-free, this no filter replacement and thereby no extra production or transport is needed. This is a significant difference to other air purifiers on the market.
- Highly energy efficient: runs on only 12V and less than 7W per hour. This is highly relevant and important for air purifiers that need to be on 24/7 to the job.
- All materials from plastic parts, aluminium collector and electronics are recyclable
- During incineration the plastic parts evaporates into water
- Advanced waste reduction due to high recyclability and repair
- The ion generator is manufactured in two parts and connected with snap-fits which enable recyclability and repair (no toxic glue has been used)
- No lacquering is used during production
- ROHS compatible: meaning no harmful lead, chromium, cadmium etc. has been used in the process
- Light weight material has been chosen in order to minimize transport pollution
- Packaging is recyclable carton

### LCA conclusion:

Some extracted results may be highlighted. The three products Style, Sky and Surface, have approximately the same environmental load during the life cycle. The difference in transport distances for the different markets, have a very marginal effect on the overall results. One Style air cleaner contribute to emissions of approximately 105 kg CO<sub>2</sub> (equivalents). The total energy consumed, including inherited energy, is approximately 2179 MJ. Less than 680 g of SO<sub>2</sub> equivalents is the potential contribution to acidification. 7,6 mg of CFC-11 equivalents is the potential contribution to ozone depletion. 54 g of ethane equivalents is the potential contribution to photochemical oxidant formation. 105 g of phosphate-equivalents is the potential contribution to eutrophication.

For all the environmental effect categories the manufacturing has the largest contribution. The component PCB assembly, is dominantly contributing to environmental load in the use phase. It is mainly due to the potential environmental aspects when producing the Printed Wire Boards. Generic data has been used to represent this but it is strongly suggested to identify specific LCA data for this component as may have a dramatic effect on the overall results of the Life Cycle Assessment.

## The components of LightAir IonFlow 50 are made of the following materials:

- **Ion generator**  
Material: polyacrylonitrile butadiene styrene plastic  
Process: moulded
- **Stand**  
Material: polymethyl methacrylate and aluminium  
Process: handmade or moulded with extruded inner tube
- **Collector**  
Material: anodized aluminium  
Process: extruded
- **Touch Cover**  
Material: polypropylene plastic  
Process: moulded
- **Cord**  
Material: copper with polyvinyl chloride coating
- **Switch**  
Material: polypropylene plastic  
Process: moulded
- **Electronics**  
Material: printed circuit board with electrical components moulded into special high voltage epoxy