

ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry



EFFECTS OF RECYCLED FIBER USE ON DISCHARGES TO WATER

Containerboard Sector

Mills with virgin pulp production vs. 100% recycled containerboard mills: This section explains that, in general, mills producing containerboard from only recovered fiber have effluent biochemical oxygen demand (BOD) and total suspended solids (TSS) that are lower than mills that have virgin pulp mills on site. This finding is generally supported by statistical analysis of NCASI data, although NCASI data indicate that the differences between recycled containerboard mills and semi-chemical medium mills are smaller than those between recycled containerboard mills and unbleached kraft linerboard mills.

Effluent BOD, TSS, and especially COD (chemical oxygen demand) in treated effluents from containerboard mills with virgin pulping, especially kraft pulping, are usually higher than those from mills using only recovered fiber. Some of the published values for representative effluent loads from virgin and recycled containerboard production are shown in the following table.

Table R13.

Mill Description	Effluent BOD (kg/tonne)	Effluent COD (kg/tonne)	Effluent TSS (kg/tonne)	Reference
Unbleached kraft pulp mills using Best Available Techniques	0.2 to 0.7	5 to 10	0.3 to 1.0	EC BREF 2001
Recycled board mills using Best Available Techniques	<0.05 to 0.15	0.5 to 1.5	0.05 to 0.15	
Typical virgin containerboard mills (weighted average of linerboard and medium mills)	1.95	21.6	3.05	Paper Task Force 2002
Typical recycled containerboard mill	1.8	1.0	0.85	

References

European Commission BAT Reference (BREF). 2001. *Integrated Pollution Prevention and Control (IPPC) reference document on best available techniques in the pulp and paper industry*. Seville, Spain: European Commission Joint Research Centre. <http://eippcb.jrc.es/reference/pp.html>

Paper Task Force. 2002. *Paper Task Force recommendations for purchasing and using environmentally preferable paper*. <http://epa.gov/epawaste/conserves/tools/warm/pdfs/EnvironmentalDefenseFund.pdf>