

## Convention Center Scenario



98%↓  
SMOG



97%↓  
OZONE DEPLETION



91%↓  
EUTROPHICATION



73%↓  
CO<sub>2</sub> EMISSIONS



72%↓  
PARTICULATE



54%↓  
ACIDIFICATION



43%↓  
ECOTOXICITY

## 5000-Sc Environmental Footprint Reduction Study Results

Compared to conventional packaged daily-use cleaning chemicals, the MultiSurface Cleaner generated right on site by the 5000-Sc system provides a significant reduction in the environmental footprint when cleaning spaces such as convention centers, large office buildings or universities, according to a study conducted by Ecoform, LLC.

### 5000-SC SYSTEM: REDUCTION OF ENVIRONMENTAL IMPACT VERSUS CONVENTIONAL PACKAGED CLEANING CHEMICALS\*

IMPACT CATEGORY	CONVENTION CENTER	OFFICE BUILDING	UNIVERSITY
ACIDIFICATION	54%	50%	28%
CO <sub>2</sub> EMISSIONS	73%	70%	57%
ECOTOXICITY	43%	44%	20%
EUTROPHICATION	91%	89%	81%
OZONE DEPLETION	97%	97%	94%
PARTICULATE	72%	67%	54%
SMOG	98%	97%	94%

### LIFE-CYCLE EVALUATION SCENARIOS

PARAMETER	CONVENTION CENTER	OFFICE BUILDING	UNIVERSITY
TOTAL FACILITY SIZE (SQ FT / SQ M)	3,000K / 279K	1,250K / 117K	3,200K / 298K
FLOOR AREA CLEANED (SQ FT / SQ M)	2,000K / 186K	750K / 70K	2,300K / 214K
CARPET / HARD FLOOR SPLIT (%)	33 / 67	50 / 50	40 / 60
HARD FLOORING TYPE	Terrazo / Sealed Concrete	Granite / Terrazo / Ceramic Tile	Terrazo / VCT / Concrete
CLEANING STAFF (# OF WORKERS)	50	33	110
TRAFFIC / USE	1.5 million visitors/year	2,500 workers	11,000 students

\* Results based on estimates and assumptions set forth in the Life-Cycle Analysis Study.

# Orbio® 5000-Sc Environmental Footprint Reduction Questions and Answers

## WHAT IS A LIFE-CYCLE ANALYSIS?

Life-cycle analysis is a methodology used to identify and quantify the environmental impacts of a product, service or activity, across its life-cycle.

## WHO PERFORMED THE LIFE-CYCLE ANALYSIS?

Jack Giebig, president of Ecoform, LLC, an independent company that focuses on the environmental performance of companies and their products and processes.

## WHAT SOFTWARE WAS USED IN THE LIFE-CYCLE ANALYSIS?

Version 4.3 of GaBi Life-Cycle Software.

## WHERE CAN I READ THE ENTIRE LIFE-CYCLE ANALYSIS REPORT FOR THE 5000-Sc?

Go to [www.orbio.com](http://www.orbio.com) to download the entire LCA study for the 5000-Sc.

## WHAT DOES EACH IMPACT CATEGORY MEASURE?

IMPACT CATEGORY	REDUCTION OF	CREATED BY	HARMFUL TO
 ACIDIFICATION	SO <sub>2</sub> equivalents	Combustion processes in electricity and heating production and transportation	Fish and forests, by lowering the pH of water and soil
 CO <sub>2</sub> EMISSIONS	CO <sub>2</sub> equivalents	Combustion of fossil fuels	Atmosphere (global climate change)
 ECOTOXICITY	TEQ equivalents	Chemicals and toxins released into the aquatic ecosystem	Living organisms
 EUTROPHICATION	NO <sub>3</sub> equivalents	Nutrients from discharged waste water and fertilized farmland	Fish and other life in the aquatic ecosystem, due to oxygen deficiency
 OZONE DEPLETION	CFC equivalents	Emission of halocarbons	Humans, causing increased frequency of skin cancer and damage to plants
 PARTICULATE	PM equivalents	Combustion of materials	Human respiratory systems, resulting in chronic respiratory illness
 SMOG	Ethane equivalents	Reduction of VOCs and nitrogen oxides in the presence of heat and sunlight	Human respiratory systems, resulting in respiratory illness including chronic bronchitis and emphysema

Learn more about the Orbio® 5000-Sc and other cleaning innovations. Contact Orbio today or visit our website at [orbio.com](http://orbio.com).

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