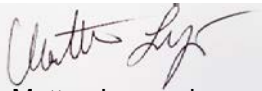




GREENGUARD CERTIFICATION PROGRAM PROFILE STUDY TEST REPORT						
Product Description		BOB S80 MODULAR SOFA				
Category		OFFICE FURNITURE				
SUMMARY		TVOC	Formaldehyde	Total Aldehydes	TLV	
	GREENGUARD	✓	✓	✓	✓	
	GREENGUARD Gold	TVOC	Formaldehyde	Total Aldehydes	CREL/TLV	NMP
		✓	✓	✓	✓	✓
✓ - meets criteria; ✓* - meets within 10%; X - over criteria						

This test data is provided for general informational purposes only. The data indicate the level of emissions from the designated product and how they compare to the emission criteria of the GREENGUARD and GREENGUARD Gold standards. This data does not imply that the product has been qualified to meet the requirements of the GREENGUARD Certification program nor does it imply that the product is or is not certified by the GREENGUARD Certification program. A summary of the allowable emission limits for GREENGUARD Certification and GREENGUARD Gold Certification can be found [here](#).

Customer Information	BLA STATION AB ISAAC SVENSSON BOX 100 AHUS S-296 22 SWEDEN
Laboratory Approval	 Matteo Longoni EMEA + LA Operations Manager

SAMPLE INFORMATION	
Testing Laboratory Location	UL International Italia S.r.l, ATTN: IAQ Laboratory, Via Europa, 9, I – 22060 – Cabiato (Como), Italia
Test Description	The product was received by UL Environment as packaged and shipped by the customer. The package was visually inspected and stored in a controlled environment immediately following sample check-in. Just prior to loading, the product was unpackaged and prepared for the required loading. The sample was placed inside the environmental chamber, and tested according to the specified protocol.
Date Received	October 19, 2019
Test Period	10/28/2019 - 11/4/2019
Area	1 unit
Chamber Volume	1.01 m ³
Product Loading	1 unit / 1.01 m ³
Test Conditions	1.00 ± 0.05 ACH 50% RH ± 5% RH 23.5°C - 25.0°C

The temperature range specification is 23°C ± 1°. The actual temperature range listed above may vary slightly. If the range is outside this specification, data was reviewed to ensure a negative impact did not occur.

MODELING PREDICTED CONCENTRATION PARAMETERS						
Certification Program	Environment Basis	Product Usage	Surface Area (unit)	Room Volume (m ³)	ACH (1/hr)	Air Flow Rate (m ³ /hr)
GREENGUARD and GREENGUARD Gold	ANSI/BIFMA M7.1-2011	seating	1	40.7	0.61	24.8

RESULTS				
Analyte	Mean Emission Factor (µg/unit•hr)		168 Hour Predicted Concentration	
	Elapsed Exposure Hour		GREENGUARD	GREENGUARD Gold
	72	168		
TVOC	232	175	0.007 mg/m ³	0.007 mg/m ³
Formaldehyde	6.5	5.9	< 0.001 ppm	< 0.001 ppm
Total Aldehydes	177	141	0.002 ppm	0.002 ppm

EMISSION FACTORS OF IDENTIFIED VOLATILE ORGANIC COMPOUNDS (µg/unit•hr)							
CAS Number	Compound	Elapsed Exposure Hour					
		72			168		
		#1**	#2**	Mean	#1**	#2**	Mean
498-15-7	Bicyclo[4.1.0]hept-3-ene, 3,7,7-trimethyl-, (1S)-*	96.5			72.6	57.5	65.1
2437-95-8	Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-, (?)-*	51.8			49.7	26.9	38.3
66-25-1	Hexanal	24.1			20.2	21.5	20.9
107-52-8	Hexasiloxane, tetradecamethyl*	11.8			11.9	12.1	12.0
541-01-5	Heptasiloxane, hexadecamethyl-*	9.0			9.6	9.6	9.6
138-86-3	Limonene (Dipentene; 1-Methyl-4-(1-methylethyl)cyclohexene)	8.7			6.1	6.1	6.1
586-62-9	Cyclohexene, 1-methyl-4-(1-methylethylidene)*	5.6			4.7	4.8	4.8
110-62-3	Pentanal	5.1			4.0	3.6	3.8
---	Unresolved hydrocarbons	4.4			3.1	2.6	2.9
123-35-3	1,6-Octadiene,7-methyl-3-methylene (Myrcene)	4.1			3.2	3.0	3.1
71-41-0	1-Pentanol (N-Pentyl alcohol)	3.5			3.0	3.0	3.0
9003-13-8	Polypropylene glycol monobutyl ether	3.0			3.1	3.0	3.1
124-19-6	Nonyl aldehyde (Nonanal)†	2.5			2.4	2.3	2.4
555-10-2	a-Phellandrene*	2.3					
71-36-3	1-Butanol (N-Butyl alcohol)†	2.2					

Quantifiable level is 0.04 µg based on a standard 18 L air collection volume.

*Indicates NIST/EPA/NIH best library match only based on retention time and mass spectral characteristics.

**Duplicate measurement at 168 hours.

72 hour duplicate sample was lost due to instrument malfunction.

†Denotes quantified using multipoint authentic standard curve. Other VOCs quantified relative to toluene.

EMISSION FACTORS OF TARGET LIST ALDEHYDES (µg/unit•hr)							
CAS Number	Compound	Elapsed Exposure Hour					
		72			168		
		#1**	#2**	Mean	#1**	#2**	Mean
4170-30-3	2-Butenal	BQL			BQL	BQL	BQL
75-07-0	Acetaldehyde	16.5			14.0	17.1	15.6
100-52-7	Benzaldehyde	4.7			3.3	3.8	3.6
5779-94-2	Benzaldehyde, 2,5-dimethyl	BQL			BQL	BQL	BQL
529-20-4	Benzaldehyde, 2-methyl	BQL			BQL	BQL	BQL
620-23-5 / 104-87-0	Benzaldehyde, 3- and/or 4-methyl	BQL			BQL	BQL	BQL
123-72-8	Butanal	5.2			3.7	3.5	3.6
590-86-3	Butanal, 3-methyl	BQL			BQL	BQL	BQL
50-00-0	Formaldehyde	6.5			5.4	6.5	5.9
66-25-1	Hexanal	102			74.5	83.2	78.8
110-62-3	Pentanal	29.1			21.0	25.1	23.0
123-38-6	Propanal	10.1			7.4	8.7	8.0

**Duplicate measurements at 168 hours.

72 hour duplicate sample was lost due to instrument malfunction.

The 168 hour time point is used to determine UL GREENGUARD compliance. If GREENGUARD Gold is being assessed, the a/b coefficients are used to predict to the 336 hour point. The a/b coefficients use the 72 and 168 hour emission data.

BQL denotes below quantifiable level of 0.04 µg based on a standard 18 L air collection volume for TVOC and individual VOCs and 0.1 µg based on a standard 45 L air collection volume for formaldehyde and total aldehydes

Analyses based on EPA Compendium Method TO-17 and ASTM D 6196 for VOCs by thermal desorption followed by gas chromatography/mass spectrometry (TD/GC/MS), and EPA Method TO-11A and ASTM D 5197 for selected aldehydes by high performance liquid chromatography (HPLC).

Testing followed UL 2821, "GREENGUARD Certification Program Method for Measuring and Evaluating Chemical Emissions From Building Materials, Finishes and Furnishings Using Dynamic Environmental Chambers" 2013.

This test is accredited and meets the requirements of ISO/IEC 17025 as verified by ANSI National Accreditation Board. Refer to certificate and scope of accreditation AT-1297.01.