

# BARESQUE TEST REPORT

**SCOPE OF WORK**

Standard Method Version 1.2 for CDPH 01350 on Zintra Acoustic Panel

**REPORT NUMBER**

103081507GRR-001

**ISSUE DATE**

14-June-2017

**PAGES**

13

**DOCUMENT CONTROL NUMBER**

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## TEST REPORT FOR BARESQUE USA, LLC

Report No.: 103081507GRR-001

Date: 14-June-2017

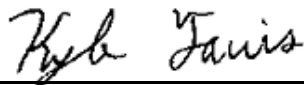
P.O.: N/A

Telephone: +1 616 656 7401  
Facsimile: +1 616 656 2022  
www.intertek.com

### SECTION 1

#### CLIENT INFORMATION

Attention: Angus Blaiklock  
Baresque USA, LLC  
21925 Field Parkway, Suite 24  
Deer Park, IL 60010 USA  
Phone: (213) 596-5596  
Email: angus@baresque.com.au



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**Kyle Tanis**  
Test Engineer



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**Taylor Gebben**  
Project Reviewer

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**SECTION 2**

**SUMMARY AND CONCLUSION**

Test Method: Standard Method Version 1.2 for CDPH 01350  
 Modeling Scenario: Private office, school classroom and single family residence  
 Method Deviations: Testing performed without deviation unless noted below.

**PRODUCT SAMPLE INFORMATION**

Product Name Zintra Acoustic Panel  
 Product Number ½” Not Specified  
 Date of Manufacture 17-May-2017  
 Date of Collection 18-May-2017  
 Date of Shipment 18-May-2017  
 Date Received by Lab 25-May-2017  
 Date of Test Start and Duration As Received Sample 26-May-2017; 14 days  
 Condition Lab Sample ID Good  
 GRR17052594923

**WORK REQUESTED/APPLICABLE DOCUMENTS**

CDPH Standard Method v1.2  
 Qu-00783906

**TEST RESULTS**

<b>MODELING SCENARIO - WALL</b>	<b>DISPOSITION (PASS/FAIL)</b>
Private Office	PASS
School Classroom	PASS
Single Family Residence	PASS
<b>MODELING SCENARIO - CEILING</b>	<b>DISPOSITION (PASS/FAIL)</b>
Private Office	PASS
School Classroom	PASS
Single Family Residence	PASS
<b>MODELING SCENARIO – WALL &amp; CEILING</b>	<b>DISPOSITION (PASS/FAIL)</b>
Private Office	PASS
School Classroom	PASS
Single Family Residence	PASS

\*Note: The single family residence modeling scenario is not yet a requirement and is for informational purposes only.

**SAMPLE DISPOSAL**

At the completion of testing, samples were disposed of in a routine manner.

**SECTION 3****CDPH STANDARD METHOD V1.2**

Date of Manufacture:	17-May-2017
Date of Shipment:	18-May-2017
Date Received:	25-May-2017
Dates Tested:	26-May-2017 to 9-June-2017

**DESCRIPTION OF SAMPLES:**

Part Description:	Zintra Acoustic Panel ½"
Material Submitted:	One (1) acoustic panel

**ACCEPTANCE CRITERIA:**

CDPH Standard Method v1.2, Table 4.1

**TEST SUMMARY:**

The emissions testing were performed according to "Standard Method for the Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers Version 1.2". A photograph of the tested sample is included herein. Three sample edges were sealed with aluminized tape to leave one factory edge exposed. The sample was then placed in the conditioning environment for 10 days with all non-taped surfaces exposed, before being placed in the test chamber. Air samples were collected prior to the sample being placed in the test chamber (0 hours) and at 24, 48 and 96 hours after placement in the test chamber. These times correspond to 264, 288, and 336 hours of total exposure. Samples analyzed for individual VOCs and TVOC were collected on multi-sorbent tubes containing glass wool, Tenax TA 35/60 and Carbograph 5 TD 40/60. These VOC samples were analyzed by thermal desorption-gas chromatography/mass-spectrometry, TD-GC/MS. TVOC was calculated through integration of the chromatogram from n-pentane through n-heptadecane using toluene as a surrogate. Individual VOCs were calculated using calibration curves based on pure standards unless otherwise noted. Samples analyzed for low molecular weight aldehydes were collected on cartridges treated with 2,4-di-nitrophenylhydrazine (DNPH). Low molecular weight aldehydes were analyzed using high performance liquid chromatography, HPLC.

**Table 1: Conditioning and Test timing**

EXPERIMENT PHASE	START DATE	DURATION
Conditioning	05/26/17	10 days
Chamber Testing	06/05/17	4 days

**Table 2: Parameters of Conditioning**

PARAMETER	VALUE	UNITS
Average Temperature (Range)	23.4 (23.0-23.7)	°C
Average Humidity (Range)	50.4 (47.6-52.8)	% RH

Note: Conditioning air is passed through both particulate and activated charcoal filtration to remove background VOCs.

**RESULTS:**

**Table 3: Sample and Chamber Conditions During Test Period**

PARAMETER		SYMBOL	VALUE	UNITS
Sample Dimensions	Length	-	0.296	m
	Width	-	0.290	m
	Thickness	-	0.012	m
Exposed Sample Surface Area		<i>A</i>	0.086	m <sup>2</sup>
Chamber Volume		<i>V</i>	0.116	m <sup>3</sup>
Chamber Loading Factor		<i>L</i>	0.74	m <sup>2</sup> m <sup>-3</sup>
Inlet Air Flow Rate		<i>Q</i>	0.116	m <sup>3</sup> h <sup>-1</sup>
Air Change Rate		<i>N<sub>ACH</sub></i>	0.99	h <sup>-1</sup>
Area Specific Flow Rate		<i>q<sub>A</sub></i>	1.35	m h <sup>-1</sup>
Testing Duration		<i>t</i>	96	h
Chamber Pressure (Range)		<i>P</i>	17.7 (15.9-19.1)	Pa
Average Temperature (Range)		<i>T</i>	22.8 (22.7-23.1)	°C
Average Humidity (Range)		RH	50.0 (47.5-50.5)	% RH

**Table 4: Test chamber background VOC concentrations in µg m<sup>-3</sup>.**

COMPOUND	CAS No.	<i>C<sub>io</sub></i>
Formaldehyde	50-00-0	1.1
TVOC	-	< 10

**Table 5: Test chamber TVOC and formaldehyde concentrations in µg m<sup>-3</sup>.**

COMPOUND	CAS No.	24 H	48 H	96 H
Formaldehyde	50-00-0	2.0	1.3	1.5
TVOC	-	26.9	< 10	< 10

**Table 6: Test chamber TVOC and formaldehyde emission factors in µg m<sup>-2</sup> h<sup>-1</sup>.**

COMPOUND	CAS No.	24 H	48 H	96 H
Formaldehyde	50-00-0	1.2	0.2	0.6
TVOC	-	36.2	< 13.5	< 13.5

Individual emitted VOCs identified above the lower limits of quantitation are listed in Table 7; VOCs which are listed on chemical of concern lists or have CRELs are indicated.

The measured chamber concentrations and corresponding emission factors of identified individual VOCs and TVOCs are listed in Table 8.

In Tables 6 and 8, emission factors were calculated using equation 3.1 in CDPH Standard Method V1.2:

$$EF_{Ai} = \frac{Q \times (C_{it} - C_{i0})}{A_C}$$

The inlet flow rate,  $Q$  ( $m^3 h^{-1}$ ), is the measured flow rate of air into the chamber. The chamber concentration,  $C_{it}$  ( $\mu g m^{-3}$ ), is the concentration of a target VOC<sub>i</sub>, formaldehyde and other carbonyl compounds measured at time  $t$ . The chamber background concentration,  $C_{i0}$  ( $\mu g m^{-3}$ ), is the corresponding concentration measured with the chamber operating without a test specimen. The exposed projected surface area of the test specimen in the chamber,  $A_C$  ( $m^2$ ), is determined from the measurements made at the time of specimen preparation.

**Table 7: VOCs detected above lower limits of quantitation in air samples at 366 hours.**

VOC	CAS No.	SURROGATE <sup>1</sup>	CREL <sup>2</sup> ( $\mu g m^{-3}$ )	CARB TAC <sup>3</sup>	PROP 65 LIST <sup>4</sup>
Formaldehyde	50-00-0	No	9	Yes	Yes
Acetaldehyde	75-07-0	No	140	Yes	Yes

<sup>1</sup>Indicates which non-listed VOCs were quantified using surrogate compounds, all other compounds were quantified using pure compounds.

<sup>2</sup>Chronic Reference Exposure Level (CREL) as defined by California Office of Environmental Health Hazard Assessment.

<sup>3</sup>Substance is listed on California Air Resource Board’s (CARB) Toxic Air Contaminant (TAC) identification list.

<sup>4</sup>Substance known to the state of California to cause cancer or reproductive toxicity according to California’s Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

**Table 8: Measured chamber concentrations and corresponding emission factors of identified individual VOCs and TVOC at 96 hours.**

VOC	CAS No.	CHAMBER CONCENTRATION ( $\mu g m^{-3}$ )	EMISSION FACTOR ( $\mu g m^{-2} h^{-1}$ )
Formaldehyde	50-00-0	1.5	0.6
Acetaldehyde	75-07-0	3.2	1.1
TVOC	-	< 10	< 13.5

**Exposure Scenario Modeling and Evaluation:**

Estimated building concentrations for the private office, school classroom, and single-family residence scenarios were calculated using equation 3.2a of CDPH Standard Method V1.2:

$$C_{Bi} = \frac{EF_{Ai} \times A_B}{Q_B}$$

The area specific emission rate  $EF_A$  at 336 hours (14 days) total exposure time is multiplied by the ratio of the exposed surface area of the installed material in the building,  $A_B$  ( $m^2$ ), to the flow rate of outside ventilation air,  $Q_B$  ( $m^3 h^{-1}$ ).

The modeling parameters used for private office, school classroom, and single-family residence scenarios are listed in Tables 9, 13, & 17.

The modeled concentrations of identified individual VOCs for private office, school classroom, and single-family residence scenarios are listed in Tables 10-12, respectively for wall coverings. The modeled concentrations for ceiling panels are listed in Tables 14-16. Modeled concentrations for applications of both ceiling and wall panels are listed in Tables 18-20. Whether the modeled concentrations meet the maximum allowable concentration requirements specified in Table 4.1 of CDPH Standard Method V1.2 are also indicated.

**Table 9: Standard modeling parameters for wall coverings**

PARAMETER	SYMBOL	VALUE	UNITS
Exposed Surface Area Installed in <i>Private Office</i>	$A_B$	33.4	m <sup>2</sup>
Air flow rate of <i>Private Office</i>	$Q_B$	20.7	m <sup>3</sup> h <sup>-1</sup>
Exposed Surface Area Installed in <i>Classroom</i>	$A_B$	94.6	m <sup>2</sup>
Air flow rate of <i>Classroom</i>	$Q_B$	191	m <sup>3</sup> h <sup>-1</sup>
Exposed Surface Area Installed in <i>Residence</i>	$A_B$	562	m <sup>2</sup>
Air flow rate of <i>Residence</i>	$Q_B$	127	m <sup>3</sup> h <sup>-1</sup>

**Table 10: Projected concentrations of identified individual VOCs using private office scenario for wall coverings**

VOC	CAS NO.	PROJECTED CONCENTRATION (µg m <sup>-3</sup> )	CONCENTRATION LIMIT (µg m <sup>-3</sup> )	DISPOSITION
Formaldehyde	50-00-0	1.0	9*	PASS
Acetaldehyde	75-07-0	1.7	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 11: Projected concentrations of identified individual VOCs using school classroom scenario for wall coverings**

VOC	CAS NO.	PROJECTED CONCENTRATION (µg m <sup>-3</sup> )	CONCENTRATION LIMIT (µg m <sup>-3</sup> )	DISPOSITION
Formaldehyde	50-00-0	0.3	9*	PASS
Acetaldehyde	75-07-0	0.5	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 12: Projected concentrations of identified individual VOCs using single family residence scenario for wall coverings**

VOC	CAS NO.	PROJECTED CONCENTRATION (µg m <sup>-3</sup> )	CONCENTRATION LIMIT (µg m <sup>-3</sup> )	DISPOSITION
Formaldehyde	50-00-0	2.7	9*	PASS
Acetaldehyde	75-07-0	4.7	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1



**Table 13: Standard modeling parameters for ceiling panels**

PARAMETER	SYMBOL	VALUE	UNITS
Exposed Surface Area Installed in <i>Private Office</i>	$A_B$	11.1	$m^2$
Air flow rate of <i>Private Office</i>	$Q_B$	20.7	$m^3 h^{-1}$
Exposed Surface Area Installed in <i>Classroom</i>	$A_B$	89.2	$m^2$
Air flow rate of <i>Classroom</i>	$Q_B$	191	$m^3 h^{-1}$
Exposed Surface Area Installed in <i>Residence</i>	$A_B$	217	$m^2$
Air flow rate of <i>Residence</i>	$Q_B$	127	$m^3 h^{-1}$

**Table 14: Projected concentrations of identified individual VOCs using private office scenario for ceiling panels**

VOC	CAS NO.	PROJECTED CONCENTRATION ( $\mu g m^{-3}$ )	CONCENTRATION LIMIT ( $\mu g m^{-3}$ )	DISPOSITION
Formaldehyde	50-00-0	0.3	9*	PASS
Acetaldehyde	75-07-0	0.6	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 15: Projected concentrations of identified individual VOCs using school classroom scenario for ceiling panels**

VOC	CAS NO.	PROJECTED CONCENTRATION ( $\mu g m^{-3}$ )	CONCENTRATION LIMIT ( $\mu g m^{-3}$ )	DISPOSITION
Formaldehyde	50-00-0	0.3	9*	PASS
Acetaldehyde	75-07-0	0.5	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 16: Projected concentrations of identified individual VOCs using single family residence scenario for ceiling panels**

VOC	CAS NO.	PROJECTED CONCENTRATION ( $\mu g m^{-3}$ )	CONCENTRATION LIMIT ( $\mu g m^{-3}$ )	DISPOSITION
Formaldehyde	50-00-0	1.0	9*	PASS
Acetaldehyde	75-07-0	1.8	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 17: Standard modeling parameters for wall and ceiling panels**

PARAMETER	SYMBOL	VALUE	UNITS
Exposed Surface Area Installed in <i>Private Office</i>	$A_B$	44.5	m <sup>2</sup>
Air flow rate of <i>Private Office</i>	$Q_B$	20.7	m <sup>3</sup> h <sup>-1</sup>
Exposed Surface Area Installed in <i>Classroom</i>	$A_B$	183.8	m <sup>2</sup>
Air flow rate of <i>Classroom</i>	$Q_B$	191	m <sup>3</sup> h <sup>-1</sup>
Exposed Surface Area Installed in <i>Residence</i>	$A_B$	779	m <sup>2</sup>
Air flow rate of <i>Residence</i>	$Q_B$	127	m <sup>3</sup> h <sup>-1</sup>

**Table 18: Projected concentrations of identified individual VOCs using private office scenario for wall and ceiling panels**

VOC	CAS NO.	PROJECTED CONCENTRATION (µg m <sup>-3</sup> )	CONCENTRATION LIMIT (µg m <sup>-3</sup> )	DISPOSITION
Formaldehyde	50-00-0	1.3	9*	PASS
Acetaldehyde	75-07-0	2.3	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 19: Projected concentrations of identified individual VOCs using school classroom scenario for wall and ceiling panels**

VOC	CAS NO.	PROJECTED CONCENTRATION (µg m <sup>-3</sup> )	CONCENTRATION LIMIT (µg m <sup>-3</sup> )	DISPOSITION
Formaldehyde	50-00-0	0.6	9*	PASS
Acetaldehyde	75-07-0	1.0	70*	PASS

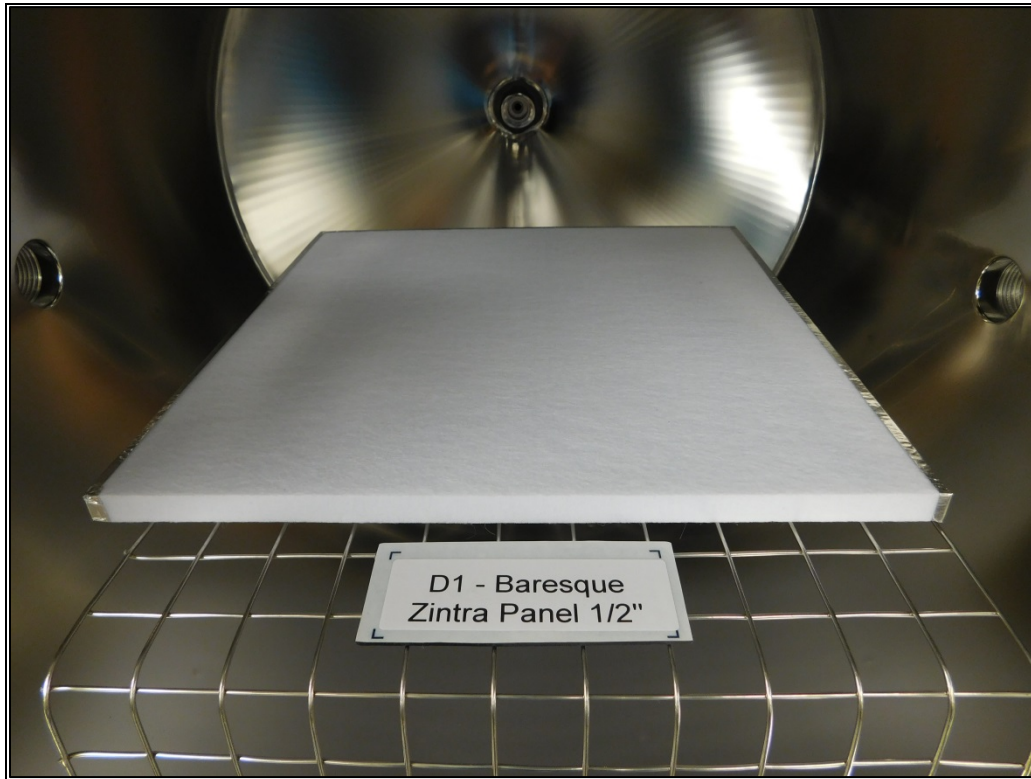
\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**Table 20: Projected concentrations of identified individual VOCs using single family residence scenario for wall and ceiling panels**

VOC	CAS NO.	PROJECTED CONCENTRATION (µg m <sup>-3</sup> )	CONCENTRATION LIMIT (µg m <sup>-3</sup> )	DISPOSITION
Formaldehyde	50-00-0	3.7	9*	PASS
Acetaldehyde	75-07-0	6.6	70*	PASS

\* Concentration Limit specified in CDPH SM V1.2, Table 4.1

**PHOTOGRAPHS:**



**Figure 1: Photograph of sample as tested in environmental testing chamber.**

**SECTION 4**

**FACILITIES AND EQUIPMENT**

**GCMS**


INSTRUMENTATION USED:	Markes TD-100 Thermal Desorption Agilent 7890A GC Agilent 5975C MS
COLUMN USED:	Agilent HP-Ultra 2 (GC)

**HPLC**

INSTRUMENTATION USED:	Agilent 1260 Infinity Series
COLUMN USED:	Poroshell 120 EC-C18

SECTION 5

CHAIN OF CUSTODY

		<b>Ship To:</b>	
		Attn: VOC Laboratory 4700 Broadmoor SE Suite 200 Kentwood, MI 49512 Phone: 616-656-7401	
<b>Customer Information*</b>			
Company: Baresque USA LLC		Street Address: 21925 Field Parkway	
City/State/Zip(postal code): Deer Park, IL, 60010		Country: USA	
Contact Name & Title (for reporting): Angus Blaiklock		Contact Phone/Fax Numbers: 213 596 5596	
Contact E-mail Address: angus@baresque.com.au		Financially Responsible Co. (if different):	
<b>Manufacturer Information (if different from customer)</b>			
Company:		City/State/Country:	
Contact Name/Title:		Phone Number/E-mail Address:	
<b>Sample Details</b>			
Product Commercial Name*: Zintera Acoustic Panel <i>V2</i>		Product Commercial Part No. (if not part of the name):	
Manufacturer Sample Tracking ID: White		Date Manufactured*: 17th May, 2017	
Product Category & Use*: Wall-cladding		Sample Construction Material*: Polyester Fibre	
Plant Name & Location*: Suzhou, China		Collection Location within Plant: Production	
Date & Time Collected*: 2pm, 18th May, 2017		Number of Sample Pieces*: 4	
Sample Collected by*: Johnny		Photo(s) of Collection Location: Attach	
Phone/Fax Numbers*:		E-mail Address*:	
<b>Shipping Details*</b>			
Packed & Shipped By: Johnny		Shipping Date: 18th May, 2017	
Carrier/Arbhill Number: DHL 814 869 5505		Printed Name*	
<b>Sample Handling</b>		Relinquished By: Angus Blaiklock	
Received By: Kyle Tanis		Signature*	
		Date*	
		Company*	

<b>Chain of Custody for VOC Emission Test</b>	
A Separate COC must be completed for EACH product/material sample.	
Interetek's Terms & Conditions are included in this workbook. By submitting samples, customer acknowledges and accepts these terms & conditions unless a prior written contract is in effect.	
Interetek Quotation Number:	QU-00783906
Purchase Order (enter company & number):	Angus
<b>Requested Test</b>	
Test to be performed	VOC testing
Type of product	Polyester Fibre panel
Target chemicals and chemical groups	
Modelling scenario	
Test schedule (for screening tests only)	
Test results application(s)	
<b>Customer Instructions for Sample Prep., Test Type, Schedule, etc.</b>	

<b>Customer Request for Certification Program</b>	
Are you pursuing Interetek's ETL Environmental VOC Certification:	<input type="checkbox"/> YES
Are you pursuing Interetek's ETL Environmental VOC+ Certification:	<input type="checkbox"/> YES
Are you pursuing SCS's Indoor Advantage™ Certification:	<input type="checkbox"/> YES
Are you pursuing SCS's Indoor Advantage™ Gold Certification:	<input type="checkbox"/> YES
Are you pursuing SCS's FloorScore® Certification:	<input type="checkbox"/> YES
<b>Customer Authorizes Laboratory to Submit Copies of Test Report to:</b>	
Contact/E-mail Address: Angus Blaiklock angus@baresque.com.au	
Organization: Baresque USA LLC	
Contact/E-mail Address:	
Organization:	

<b>Intertek Use Only</b>	
Condition of Shipping Package:	GOOD
Condition of Sample:	GOOD
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