
LABORATORY REPORT

June 18, 2010

Mr. Ralph Kubitzki
HGI Industries, Inc.
2055 High Ridge Road
Boynton Beach, FL 33426

RE: Odorox MDU (Serial No. ODHG00090)

Dear Mr. Kubitzki:

Enclosed are the results for the testing of the Odorox MDU Hydroxyl Air Processor unit submitted to our laboratory in December, 2009. For your reference, these analyses have been assigned our service request number P1000088.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 39 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.



Michael Taday
Director of Research & Development

Client: HGI Industries, Inc.
 Project: Odorox MDU S/N ODHG00090

CAS Project No: P1000088

CASE NARRATIVE

The Odorox MDU Hydroxyl Air Processor unit (serial number ODHG00090) was received intact on December, 2009. The air processor unit was evaluated to determine whether the hydroxyl ion generation technology employed in the device results in the reduction, formation or measurable elevation in the concentration of certain speciated and total volatile organic compounds (VOCs), speciated aldehydes, and ozone (O₃).

A 72-hour trial began 0800 hours (military time) January 07, 2010 and ran continuously until 0800 hours January 10, 2010. During the multiple day trial, three separate 15-hour sampling intervals pertaining to background, low setting and high setting were performed. The Odorox MDU is equipped with separate adjustment settings for processor and fan speed. There was a 9-hour equilibration period prior to the initial background measurement, as well as 9-hour re-equilibration periods following the background measurement and also between the low (processor low/fan low) setting and high (processor high/fan high) setting measurements. The 15-hour sampling periods were conducted from 1700 hours in the evening to 0800 hours the following morning. This time interval was chosen for two reasons: first, the effects from the possible intrusion of elevated daylight ambient ozone would be minimized and second, there would be minimal contributions in the background levels of VOCs in the laboratory due to human activity.

A description of the six sequences of the 72-hour trial are given as follows:

<u>Sequence</u>	<u>Duration</u>	<u>Start Date/Time</u>	<u>End Date/Time</u>	<u>Processor</u>	<u>Fan</u>	<u>Collection Type(s)</u>
1 EQ/Day	9 hrs	01/07/10 0800	01/07/10 1700	Off	Off	O ₃ only
2 Bkgrd	15 hrs	01/07/10 1700	01/08/10 0800	Off	Off	O ₃ , VOCs, Aldehydes
3 Re-EQ/Day	9 hrs	01/08/10 0800	01/08/10 1700	Off	Off	O ₃ only
4 Low/Low Set	15 hrs	01/08/10 1700	01/09/10 0800	On-Low	On-Low	O ₃ , VOCs, Aldehydes
5 Re-EQ/Day	9 hrs	01/09/10 0800	01/09/10 1700	Off	Off	O ₃ only
6 High/High	15 hrs	01/09/10 1700	01/10/10 0800	On-High	On-High	O ₃ , VOCs, Aldehydes

EQ = Equilibrate O₃ = Ozone VOCs = Volatile Organic Compounds

The test room, a conference room 19'2" x 24' x 8'11" (total volume = 3656 cubic feet, including bathroom cutout) was used to perform the trial. The office is painted drywall, with commercial/office grade carpeting and "acoustic" ceiling tile. The conference room is furnished with one particleboard laminate conference table, three bookshelves and twenty-eight metal upholstered chairs. The test room is equipped with one HVAC register and one return. The door to the office was closed at all times during the 15-hour sampling periods and open during the equilibration and re-equilibration intervals.

Ozone Measurement

The measurement of ozone (O₃) was performed using an ultraviolet photometric continuous analyzer (Thermo Model 49i). The analyzer, which is equipped with data-logging capabilities, operated in the data collection mode continuously throughout the entire 72-hour trial. Ozone is monitored by measuring the absorption of ultraviolet light. The ozone molecule has an absorption maximum at 254 nanometers, coincident with the principal emission wavelength of a low pressure mercury lamp located inside the instrument. Ozone is measured based on the attenuation of light passing through a 38 centimeter long absorption cell fitted with quartz windows. The low pressure mercury lamp is located on one side of the absorption cell, a photodiode at the other. An ozone scrubber provides a null reference. The intensity of light at the photodiode is measured alternatively in air that has passed through the ozone scrubber and air that has not passed through the scrubber. The ozone concentration is calculated from the measurements according to the Beer-Lambert Law.

The inlet to the analyzer was positioned six feet from the Odorox MDU Hydroxyl Air Processor on top of a desk at a height of approximately 44", in the normal breathing zone of an office occupant. The first nine hours (Sequence 1, 0800 hours to 1700 hours January 07, 2010) of ozone data collection correspond to the pre-background analyzer equilibration and daylight period. The next fifteen hours (Sequence 2, 1700 hours January 07, 2010 to 0800 hours January 08, 2010) represent the background data which is used to compare against the results obtained from the Odorox unit operating in the low (processor low/fan low) and high (processor high/fan high) settings. The following nine hours (Sequence 3, 0800 hours to 1700 hours January 08, 2010) represent a second daylight period. In all, the first 33 hours of ozone data were collected with the Odorox MDU Hydroxyl Air Processor switched in the "Off" position. It isn't until Sequence 4 that the unit is actually operating.

An instrument data logging communication failure occurred during the background portion of the trial. Ozone measurement data from after 10:00 on 01/07/2010 until 11:45 on 01/07/2010 were lost due to this failure. Since these results were not used to calculate the comparative mean ozone concentration, the effect of this loss of data on the data set is negligible.

Ozone concentrations are reported in 15-minute and 1-hour time-weighted averages in units of parts per billion by volume.

Aldehyde Analysis

The DNPH Silica gel tube samples were analyzed for 13 target aldehydes according to EPA Method TO-11A using high performance liquid chromatography (HPLC). A summary of the method is as follows: The carbonyl compounds in the sample stream react with the 2,4-dinitrophenylhydrazine reagent to form stable aldehyde-hydrazone derivatives. These derivatives are chemically desorbed from the silica gel sorbent using acetonitrile. The desorbed acetonitrile extracts are analyzed using high performance liquid chromatography (HPLC) with ultraviolet (UV) detection.

Samples were collected on DNPH coated silica gel tubes equipped with potassium iodide ozone scrubbers (SKC Catalog No. 226-120). The tubes were sampled over three 15-hour collection periods (1700 – 0800) representing background, Odorox MDU low setting and Odorox MDU high setting. All sample tubes were collected in duplicate using personal sampling pumps at a nominal sampling rate of 0.2 liters per minute for an approximate final volume of 180 liters. The sampling tube inlets were positioned six feet from the outlet of the Odorox MDU unit at a height of 44 inches to approximate the breathing zone of a room occupant sitting at desk level.

Volatile Organic Compound Analysis

Samples for speciated and total VOCs were collected by a passive subatmospheric sampling technique in 6-liter

electropolished stainless steel (Summa passivated) canisters equipped with low volume flow controllers. The canisters were cleaned, evacuated and certified to below 0.5 ug/m³ prior to sampling. Samples were collected over 15-hour periods corresponding to background, low setting and high setting. The flow controllers were calibrated to approximately 5.5 milliliters per minute to accommodate the 15-hour sample collection period. The canister samples were analyzed for 75 target volatile organic compounds plus additional tentatively identified compounds and total volatile organic compounds (TVOC) as Toluene according to EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator.

The tentatively identified compounds were obtained using a mass spectral library search against an approximately 180,000 entry National Institute of Standards and Technology (NIST) mass spectral library. In addition to the data system best match algorithm, the analysts employed both intuitive and traditional methods of mass spectral interpretation. Compounds that could not be identified as an exact match were given the most specific generic classification (e.g. - a C₉ carboxylic acid, a C₁₂ branch chain aliphatic hydrocarbon, etc.). The approximate concentrations were calculated to two significant figures assuming a 1:1 response with an appropriate internal standard compound.

Summary of Results

The results of analysis are given on the attached data summary sheets.

Ozone Measurements

The Odorox MDU unit was switched on the low setting at 1700 (5 pm) and monitored for 15 continuous hours before being switched off at 0800 (8 am) the following morning. This testing regime was repeated the next day with the unit switched on the high setting. Assuming it would take one hour for the emitted ozone in the room to equilibrate, the results would be most representative if evaluated over a 14-hour period, from 1800 (6 pm) until 0800 (8 am) the following morning.

A summary of the ozone results (hourly averages) is as follows (all units are ppbv):

	<i>Background</i>	<i>Low Setting</i>	<i>High Setting</i>
<i>Mean:</i>	4.917	4.923	18.581
<i>Low:</i>	4.092	4.292	14.768
<i>High:</i>	11.480	7.506	20.208

Aldehyde Results

The formaldehyde results (mean of two field replicates) for the background, low setting and high setting samples are 16.5, 16.5 and 16 ppbv, respectively. The acetaldehyde results are 4.9, 3.8 and 3.95 ppbv, respectively. The other target aldehyde analytes follow this same general trend and are either very close to or lower than the background results.

All reported concentrations for formaldehyde are well below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) for both 8-hour time weighted average (TWA) (0.75 ppm), and short-term exposure limit (STEL - 2 ppm), American Conference of Government Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 0.3 ppm and the California Office of Environmental Health Hazard Assessment (OEHHA) Acute Reference Exposure Level of 44 ppb.

Total Volatile Organic Compound (TVOC) Results

The measured concentrations of total VOCs for the background, low setting and high setting samples are 170, 89 and 69 micrograms per cubic meter, respectively. Periodic monitoring of individual volatile organic compounds inside and nearby the CAS Simi Valley laboratory facility reveal that there are fluctuations and variations that occur day to day due to variations in mobile and stationary sources and also prevailing winds. The laboratory facility is in close proximity to a major freeway (the Ronald Reagan 118 freeway, 0.1 miles from lab) and a solid waste disposal facility (0.5 miles from lab).

The results indicate that the Odorox MDU unit does not create any significant concentration of volatile organic compounds. In fact, the measured concentrations of TVOC with the device operating in both the low and high setting were lower than the background concentration. All measured TVOC concentrations are below the maximum concentration of 500 micrograms per cubic meter for Leadership in Energy and Environmental Design (LEED) EQ certification.

The EPA Method TO-15 target analyte acetonitrile was detected at significantly high concentrations in all three Summa canister samples. The presence of acetonitrile in the three samples is due to a sampling artifact. The derivitizing substrate (acidic DNPH) that coats the tubes that are used for collection of the aldehyde samples is dissolved in acetonitrile. When sampled indoor air is passed through the tubes the acetonitrile is purged off the silica gel, through the pump and exhausted into the room air. Since this compound is an artifact rather than a VOC that is actually representative of the normal room conditions it has been deleted from the VOC compound list and subtracted from the total VOC calculation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: HGI Industries, Inc.

Project: Odorox - MDU, ODHG000090

Detailed Sample Information

<u>CAS Sample ID</u>	<u>Client Sample ID</u>	<u>Container Type</u>	<u>Pi1 (Hg)</u>	<u>Pi1 (psig)</u>	<u>Pf1 (Hg)</u>	<u>Pi2 (psig)</u>	<u>Pf2</u>	<u>Cont ID</u>	<u>Order #</u>	<u>FC ID</u>
P1000088-001.01	MDU Background	6.0 L-Summa Canister Ambient	-6.8	-3.3	3.5			AC00686	15964	
P1000088-002.01	MDU Low Setting	6.0 L-Summa Canister Ambient	-6.6	-3.2	3.5			AC01526	15964	
P1000088-003.01	MDU High Setting	6.0 L-Summa Canister Ambient	-5.9	-2.9	3.5			AC00285	15891	
P1000088-004.01	MDU Background	1 each-Tube DNPH Silica Gel								
P1000088-005.01	MDU Background	1 each-Tube DNPH Silica Gel								
	Field Dup									
P1000088-006.01	MDU Low Setting	1 each-Tube DNPH Silica Gel								
P1000088-007.01	MDU Low Setting	1 each-Tube DNPH Silica Gel								
	Field Dup									
P1000088-008.01	MDU High Setting	1 each-Tube DNPH Silica Gel								
P1000088-009.01	MDU High Setting	1 each-Tube DNPH Silica Gel								
	Field Dup									

Miscellaneous Items - received

Air - Chain of Custody Record & Analytical Service Request

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2655 Park Center Drive, Suite A
 Simi Valley, California 93065
 Phone (805) 526-7161
 Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. P1000088

Company Name & Address (Reporting Information)		Project Name		CAS Contact		Analysis Method and/or Analytes		Comments e.g. Actual Preservative or specific instructions	
HGI INDUSTRIES Project Manager Kelly Horiuchi Phone _____ Fax _____		DDOROX - MDU, ODHG00090 Project Number P.O. # / Billing Information		TO-15 + TICs		Ozone Monitoring TO-11A, Aldehydes			
Email Address for Result Reporting		Sampler (Print & Sign)		Sample Volume		Flow Controller (Bar Code - FC #)		Camister ID (Bar Code # - AC, SC, etc.)	
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Sample Type (Air/Tube/Solid)	Sample Volume	Flow Controller (Bar Code - FC #)	Camister ID (Bar Code # - AC, SC, etc.)	Flow Controller (Bar Code - FC #)	Camister ID (Bar Code # - AC, SC, etc.)
MDU Background	①-64	11/10/10	1700-800am	AIR	183.1L	FC00122	AC00284	FC00122	AC00284
MDU Low Setting	②-64	11/10/10	1702-800am	↓	179.4L	↓	AC01526	↓	AC01526
MDU High Setting	③-58	11/10/10	1702-800am	↓	182.7L	↓	AC00285	↓	AC00285
MDU Background	④	11/10/10	1702-800	TUBE	179.0L	↓	↓	↓	↓
Field Trip	⑤	↓	↓	↓	182.9L	↓	↓	↓	↓
MDU Low Setting	⑥	11/10/10	1702-800	↓	179.2L	↓	↓	↓	↓
Field Trip	⑦	↓	↓	↓					
MDU High Setting	⑧	11/10/10	1702-800	↓					
Field Trip	⑨	↓	↓	↓					

Report Tier Levels - please select
 Tier I - (Results/Default if not specified) _____
 Tier II - (Results + QC) _____
 Tier III - (Data Validation Package) 10% Surcharge _____
 Tier V - (client specified) _____

EDD required Yes / No _____
 Type: _____
 EDD Units: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____
 Relinquished by: (Signature) _____ Date: _____ Time: _____
 Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) W. Horiuchi Date: 11/10/10 Time: 1750
 Received by: (Signature) _____ Date: _____ Time: _____
 Received by: (Signature) _____ Date: _____ Time: _____

Project Requirements (MRLs, QAPP) _____
 Cooler / Blank _____
 Temperature _____ °C

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: HGI Industries, Inc.

Work order: P1000088

Project: Odorox - MDU, ODHG00090

Sample(s) received on: 01/11/10

Date opened: 01/11/10

by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | <u>Yes</u> | <u>No</u> | <u>N/A</u> |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Container(s) supplied by CAS ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Did sample containers arrive in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Was a chain-of-custody provided? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Was the chain-of-custody properly completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Did sample container labels and/or tags agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Was sample volume received adequate for analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 Are samples within specified holding times? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Cooler Temperature _____ °C Blank Temperature _____ °C | | | |
| 10 Was a trip blank received? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Trip blank supplied by CAS: _____ | | | |
| 11 Were custody seals on outside of cooler/Box? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were custody seals on outside of sample container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Location of seal(s)? _____ Sealing Lid? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were signature and date included? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were seals intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12 Do containers have appropriate preservation , according to method/SOP or Client specified information? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are pH preserved? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Were VOA vials checked for presence/absence of air bubbles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 13 Tubes: Are the tubes capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Do they contain moisture? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14 Badges: Are the badges properly capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1000088-001.01	6.0 L Ambient Can					
P1000088-002.01	6.0 L Ambient Can					
P1000088-003.01	6.0 L Ambient Can					
P1000088-004.01	Silica Gel DNPH Tube					
P1000088-005.01	Silica Gel DNPH Tube					
P1000088-006.01	Silica Gel DNPH Tube					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKNT.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);

Columbia Analytical Services, Inc.

Sample Acceptance Check Form

Client: HGI Industries, Inc.

Work order: P1000088

Project: Odorox - MDU, ODHG00090

Sample(s) received on: 01/11/10

Date opened: 01/11/10

by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1000088-007.01	Silica Gel DNPH Tube					
P1000088-008.01	Silica Gel DNPH Tube					
P1000088-009.01	Silica Gel DNPH Tube					

Explain any discrepancies: (include lab sample ID numbers):

COLUMBIA ANALYTICAL SERVICES, INC.

Client: HGI Industries, Inc.
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088

Ozone (O3)

Model: MDU
Unit: MDU/ODHS000990
Thermo
Scientific 49i-A3NCB S/N CM9440007
Test Notes: All Units are in ppbV

Date(s) Collected: 1/7-10/10

	Background			Low Setting			High Setting		
	Unit Off			Unit Off			Unit Off		
Time	Date	Ozone	Hourly Average	Date	Ozone	Hourly Average	Date	Ozone	Hourly Average
8:15	1/7/10	7.007		1/8/10	9.903		1/9/10	6.736	
8:30	1/7/10	3.415		1/8/10	12.681		1/9/10	6.696	
8:45	1/7/10	3.407		1/8/10	10.734		1/9/10	6.688	
9:00	1/7/10	4.784	4.653	1/8/10	10.207	10.881	1/9/10	6.485	6.651
9:15	1/7/10	3.607		1/8/10	9.390		1/9/10	6.476	
9:30	1/7/10	3.383		1/8/10	9.007		1/9/10	7.023	
9:45	1/7/10	3.495		1/8/10	8.249		1/9/10	7.671	
10:00	1/7/10	3.462	3.487	1/8/10	9.633	9.070	1/9/10	7.456	7.157
10:15	1/7/10			1/8/10	11.452		1/9/10	7.398	
10:30	1/7/10			1/8/10	11.676		1/9/10	7.762	
10:45	1/7/10			1/8/10	12.204		1/9/10	7.756	
11:00	1/7/10			1/8/10	12.923	12.064	1/9/10	8.157	7.768
11:15	1/7/10			1/8/10	13.295		1/9/10	8.454	
11:30	1/7/10			1/8/10	13.152		1/9/10	8.061	
11:45	1/7/10	2.328		1/8/10	12.967		1/9/10	7.680	
12:00	1/7/10	4.057	3.192	1/8/10	10.614	12.507	1/9/10	7.512	7.927
12:15	1/7/10	4.310		1/8/10	9.441		1/9/10	7.799	
12:30	1/7/10	4.660		1/8/10	8.883		1/9/10	7.725	
12:45	1/7/10	5.032		1/8/10	8.881		1/9/10	7.734	
13:00	1/7/10	4.663	4.666	1/8/10	9.138	9.086	1/9/10	8.680	7.984
13:15	1/7/10	4.512		1/8/10	8.989		1/9/10	8.826	
13:30	1/7/10	4.467		1/8/10	9.275		1/9/10	9.238	
13:45	1/7/10	4.404		1/8/10	8.888		1/9/10	9.832	
14:00	1/7/10	4.483	4.467	1/8/10	8.594	8.936	1/9/10	9.897	9.448
14:15	1/7/10	4.687		1/8/10	8.418		1/9/10	10.032	
14:30	1/7/10	4.771		1/8/10	8.617		1/9/10	9.923	
14:45	1/7/10	4.946		1/8/10	9.170		1/9/10	10.364	
15:00	1/7/10	5.016	4.855	1/8/10	9.183	8.847	1/9/10	10.460	10.195
15:15	1/7/10	5.121		1/8/10	10.444		1/9/10	9.920	
15:30	1/7/10	5.271		1/8/10	10.328		1/9/10	9.815	
15:45	1/7/10	5.063		1/8/10	11.697		1/9/10	10.226	
16:00	1/7/10	5.169	5.156	1/8/10	12.433	11.225	1/9/10	10.088	10.012
16:15	1/7/10	5.048		1/8/10	12.372		1/9/10	8.992	
16:30	1/7/10	5.006		1/8/10	12.380		1/9/10	9.292	
16:45	1/7/10	4.898		1/8/10	11.179		1/9/10	9.732	

COLUMBIA ANALYTICAL SERVICES, INC.

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Client: HGI Industries, Inc.
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088

Ozone (O3)

Model: MDU
Unit: MDU/ODHS000990
Thermo Scientific: 49i-A3NCB S/N CM9440007
Test Notes: All Units are in ppbV

Date(s) Collected: 1/7-10/10

Time	Background			Low Setting			High Setting		
	Unit Off			Unit Switched On			Unit Switched On		
	Date	Ozone	Hourly Average	Date	Ozone	Hourly Average	Date	Ozone	Hourly Average
17:00	1/7/10	4.736	4.922	1/8/10	10.572	11.626	1/9/10	9.133	9.287
17:15	1/7/10	4.555		1/8/10	8.480		1/9/10	10.690	
17:30	1/7/10	4.566		1/8/10	6.675		1/9/10	14.547	
17:45	1/7/10	4.550		1/8/10	5.955		1/9/10	16.760	
18:00	1/7/10	4.558	4.557	1/8/10	5.593	6.676	1/9/10	18.291	15.072
18:15	1/7/10	4.526		1/8/10	5.330		1/9/10	19.070	
18:30	1/7/10	4.550		1/8/10	5.169		1/9/10	19.563	
18:45	1/7/10	4.501		1/8/10	5.112		1/9/10	19.895	
19:00	1/7/10	4.432	4.502	1/8/10	5.228	5.210	1/9/10	19.977	19.626
19:15	1/7/10	4.355		1/8/10	5.134		1/9/10	19.985	
19:30	1/7/10	4.424		1/8/10	5.258		1/9/10	19.942	
19:45	1/7/10	4.479		1/8/10	5.211		1/9/10	20.160	
20:00	1/7/10	4.492	4.437	1/8/10	5.184	5.197	1/9/10	20.194	20.070
20:15	1/7/10	4.488		1/8/10	5.253		1/9/10	20.172	
20:30	1/7/10	4.444		1/8/10	5.098		1/9/10	20.096	
20:45	1/7/10	4.467		1/8/10	4.877		1/9/10	20.048	
21:00	1/7/10	4.368	4.442	1/8/10	4.839	5.017	1/9/10	20.111	20.107
21:15	1/7/10	4.422		1/8/10	4.780		1/9/10	20.152	
21:30	1/7/10	4.393		1/8/10	4.573		1/9/10	20.249	
21:45	1/7/10	4.368		1/8/10	4.457		1/9/10	20.208	
22:00	1/7/10	4.456	4.410	1/8/10	4.237	4.512	1/9/10	20.222	20.208
22:15	1/7/10	4.273		1/8/10	4.220		1/9/10	20.245	
22:30	1/7/10	4.378		1/8/10	4.241		1/9/10	20.106	
22:45	1/7/10	4.383		1/8/10	4.280		1/9/10	19.913	
23:00	1/7/10	4.319	4.338	1/8/10	4.426	4.292	1/9/10	19.717	19.995
23:15	1/7/10	4.312		1/8/10	4.456		1/9/10	19.611	
23:30	1/7/10	4.308		1/8/10	4.376		1/9/10	19.635	
23:45	1/7/10	4.127		1/8/10	4.423		1/9/10	19.576	
0:00	1/8/10	4.142	4.222	1/9/10	4.437	4.423	1/10/10	19.357	19.545
0:15	1/8/10	4.231		1/9/10	4.393		1/10/10	19.402	
0:30	1/8/10	4.143		1/9/10	4.475		1/10/10	19.421	
0:45	1/8/10	4.055		1/9/10	4.478		1/10/10	19.377	

COLUMBIA ANALYTICAL SERVICES, INC.

Page 3 of 3

Client: HGI Industries, Inc.
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088

Ozone (O3)

Model: MDU
Unit: MDU/ODHS000990
Thermo Scientific: 49i-A3NCB S/N CM9440007
Test Notes: All Units are in ppbV

Date(s) Collected: 1/7-10/10

Time	Background			Low Setting			High Setting		
	Unit Off			Unit Switched On			Unit Switched On		
	Date	Ozone	Hourly Average	Date	Ozone	Hourly Average	Date	Ozone	Hourly Average
1:00	1/8/10	3.940	4.092	1/9/10	4.512	4.464	1/10/10	19.347	19.387
1:15	1/8/10	3.857		1/9/10	4.382		1/10/10	19.416	
1:30	1/8/10	3.903		1/9/10	4.246		1/10/10	19.323	
1:45	1/8/10	4.312		1/9/10	4.392		1/10/10	19.266	
2:00	1/8/10	4.559	4.158	1/9/10	4.233	4.313	1/10/10	19.136	19.285
2:15	1/8/10	4.263		1/9/10	4.241		1/10/10	18.704	
2:30	1/8/10	4.262		1/9/10	4.318		1/10/10	18.411	
2:45	1/8/10	4.047		1/9/10	4.327		1/10/10	18.319	
3:00	1/8/10	4.082	4.163	1/9/10	4.337	4.306	1/10/10	18.060	18.373
3:15	1/8/10	4.032		1/9/10	4.417		1/10/10	18.141	
3:30	1/8/10	4.250		1/9/10	4.431		1/10/10	18.069	
3:45	1/8/10	4.170		1/9/10	4.377		1/10/10	17.925	
4:00	1/8/10	4.073	4.131	1/9/10	4.326	4.388	1/10/10	17.928	18.016
4:15	1/8/10	4.034		1/9/10	4.404		1/10/10	17.938	
4:30	1/8/10	3.994		1/9/10	4.361		1/10/10	18.088	
4:45	1/8/10	4.619		1/9/10	4.402		1/10/10	18.103	
5:00	1/8/10	4.480	4.282	1/9/10	4.355	4.381	1/10/10	18.142	18.068
5:15	1/8/10	4.382		1/9/10	4.239		1/10/10	18.166	
5:30	1/8/10	5.240		1/9/10	4.390		1/10/10	18.129	
5:45	1/8/10	5.905		1/9/10	4.671		1/10/10	18.152	
6:00	1/8/10	5.321	5.212	1/9/10	4.711	4.503	1/10/10	18.123	18.142
6:15	1/8/10	5.424		1/9/10	4.741		1/10/10	18.039	
6:30	1/8/10	5.624		1/9/10	4.685		1/10/10	18.072	
6:45	1/8/10	5.620		1/9/10	4.707		1/10/10	18.140	
7:00	1/8/10	4.640	5.327	1/9/10	4.511	4.661	1/10/10	17.940	18.048
7:15	1/8/10	11.636		1/9/10	7.509		1/10/10	15.128	
7:30	1/8/10	11.187		1/9/10	7.883		1/10/10	14.876	
7:45	1/8/10	11.868		1/9/10	7.798		1/10/10	14.829	
8:00	1/8/10	11.229	11.480	1/9/10	6.834	7.506	1/10/10	14.239	14.768
End - >									
	Overall Average (1800-0800)		4.917		4.923			18.581	

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: **HGI Industries, Inc.**
Client Sample ID: **MDU Background**
Client Project ID: **Odorox - MDU, ODHG00090**

CAS Project ID: P1000088
CAS Sample ID: P1000088-004

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 1/8/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Desorption Volume: 1.0 ml
Volume Sampled: 183.1 Liter(s)

CAS #	Compound	Result	Result	MRL	Result	MRL	Data Qualifier
		ng/Sample	µg/m ³	µg/m ³	ppbV	ppbV	
50-00-0	Formaldehyde	3,800	21	0.55	17	0.44	
75-07-0	Acetaldehyde	1,700	9.1	0.55	5.0	0.30	
123-38-6	Propionaldehyde	250	1.4	0.55	0.58	0.23	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.55	ND	0.19	
123-72-8	Butyraldehyde	180	1.0	0.55	0.34	0.19	
100-52-7	Benzaldehyde	280	1.5	0.55	0.35	0.13	M
590-86-3	Isovaleraldehyde	< 100	ND	0.55	ND	0.16	
110-62-3	Valeraldehyde	< 100	ND	0.55	ND	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.55	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.22	
66-25-1	n-Hexaldehyde	370	2.0	0.55	0.50	0.13	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.55	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

M = Matrix interference; results may be biased high.

Verified By: _____

[Handwritten Signature]

Date: _____

1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: HGI Industries, Inc.
Client Sample ID: MDU Background Field Dup
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-005

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: BC

Date Collected: 1/8/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Desorption Volume: 1.0 ml
Volume Sampled: 179.4 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	3,400	19	0.56	16	0.45	
75-07-0	Acetaldehyde	1,600	8.7	0.56	4.8	0.31	
123-38-6	Propionaldehyde	200	1.1	0.56	0.47	0.23	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.56	ND	0.19	
123-72-8	Butyraldehyde	160	0.89	0.56	0.30	0.19	
100-52-7	Benzaldehyde	290	1.6	0.56	0.38	0.13	M
590-86-3	Isovaleraldehyde	< 100	ND	0.56	ND	0.16	
110-62-3	Valeraldehyde	< 100	ND	0.56	ND	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.56	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.23	
66-25-1	n-Hexaldehyde	410	2.3	0.56	0.55	0.14	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.56	ND	0.10	

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Verified By: _____ Date: 1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: HGI Industries, Inc.
Client Sample ID: MDU Low Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
CAS Sample ID: P1000088-006

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: BC

Date Collected: 1/9/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Desorption Volume: 1.0 ml
Volume Sampled: 182.7 Liter(s)

CAS #	Compound	Result	Result	MRL	Result	MRL	Data Qualifier
		ng/Sample	µg/m³	µg/m³	ppbV	ppbV	
50-00-0	Formaldehyde	3,800	21	0.55	17	0.45	
75-07-0	Acetaldehyde	1,300	6.9	0.55	3.8	0.30	
123-38-6	Propionaldehyde	170	0.95	0.55	0.40	0.23	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.55	ND	0.19	
123-72-8	Butyraldehyde	170	0.92	0.55	0.31	0.19	
100-52-7	Benzaldehyde	150	0.80	0.55	0.18	0.13	M
590-86-3	Isovaleraldehyde	< 100	ND	0.55	ND	0.16	
110-62-3	Valeraldehyde	120	0.64	0.55	0.18	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.55	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.22	
66-25-1	n-Hexaldehyde	560	3.0	0.55	0.74	0.13	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.55	ND	0.10	

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MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

M = Matrix interference; results may be biased high.

Verified By: _____ Date: 1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: HGI Industries, Inc.
Client Sample ID: MDU Low Setting Field Dup
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-007

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: BC

Date Collected: 1/9/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Desorption Volume: 1.0 ml
Volume Sampled: 179 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	3,600	20	0.56	16	0.46	
75-07-0	Acetaldehyde	1,200	6.8	0.56	3.8	0.31	
123-38-6	Propionaldehyde	170	0.96	0.56	0.40	0.24	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.56	ND	0.19	
123-72-8	Butyraldehyde	160	0.88	0.56	0.30	0.19	
100-52-7	Benzaldehyde	140	0.77	0.56	0.18	0.13	M
590-86-3	Isovaleraldehyde	< 100	ND	0.56	ND	0.16	
110-62-3	Valeraldehyde	100	0.57	0.56	0.16	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.56	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.23	
66-25-1	n-Hexaldehyde	550	3.1	0.56	0.75	0.14	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.56	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

M = Matrix interference; results may be biased high.

Verified By: _____ Date: 1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: HGI Industries, Inc.
Client Sample ID: MDU High Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-008

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: BC

Date Collected: 1/10/10
 Date Received: 1/11/10
 Date Analyzed: 1/13/10
 Desorption Volume: 1.0 ml
 Volume Sampled: 182.9 Liter(s)

CAS #	Compound	Result		MRL µg/m³	Result		Data Qualifier
		ng/Sample	µg/m³		ppbV	ppbV	
50-00-0	Formaldehyde	3,500	19	0.55	16	0.45	
75-07-0	Acetaldehyde	1,300	7.0	0.55	3.9	0.30	
123-38-6	Propionaldehyde	220	1.2	0.55	0.50	0.23	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.55	ND	0.19	
123-72-8	Butyraldehyde	200	1.1	0.55	0.37	0.19	
100-52-7	Benzaldehyde	550	3.0	0.55	0.70	0.13	M
590-86-3	Isovaleraldehyde	< 100	ND	0.55	ND	0.16	
110-62-3	Valeraldehyde	< 100	ND	0.55	ND	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.55	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.22	
66-25-1	n-Hexaldehyde	510	2.8	0.55	0.68	0.13	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.55	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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M = Matrix interference; results may be biased high.

Verified By: Date: 1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: HGI Industries, Inc.
Client Sample ID: MDU High Setting Field Dup
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-009

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: BC

Date Collected: 1/10/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Desorption Volume: 1.0 ml
Volume Sampled: 179.2 Liter(s)


CAS #	Compound	Result	Result	MRL	Result	MRL	Data Qualifier
		ng/Sample	µg/m³	µg/m³	ppbV	ppbV	
50-00-0	Formaldehyde	3,500	20	0.56	16	0.45	
75-07-0	Acetaldehyde	1,300	7.2	0.56	4.0	0.31	
123-38-6	Propionaldehyde	230	1.3	0.56	0.55	0.24	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.56	ND	0.19	
123-72-8	Butyraldehyde	200	1.1	0.56	0.38	0.19	
100-52-7	Benzaldehyde	630	3.5	0.56	0.81	0.13	M
590-86-3	Isovaleraldehyde	< 100	ND	0.56	ND	0.16	
110-62-3	Valeraldehyde	< 100	ND	0.56	ND	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.56	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.23	
66-25-1	n-Hexaldehyde	500	2.8	0.56	0.68	0.14	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.56	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

M = Matrix interference; results may be biased high.

Verified By:  Date: 1/14/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: HGI Industries, Inc.
Client Sample ID: Method Blank
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P100113-MB

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: BC

Date Collected: NA
Date Received: NA
Date Analyzed: 01/13/10
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result	Result	MRL	Result	MRL	Data Qualifier
		ng/Sample	µg/m ³	µg/m ³	ppbV	ppbV	
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

NA = Not applicable.

Verified By: _____



Date: _____

1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Background
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00686

Date Collected: 1/8/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	3.9	0.80	2.3	0.47	M1
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.80	0.47	0.16	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.80	ND	0.21	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
64-17-5	Ethanol	26	8.0	14	4.2	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	30	8.0	13	3.4	
75-69-4	Trichlorofluoromethane	1.6	0.80	0.28	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	5.5	1.6	2.2	0.65	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	2.8	0.80	0.80	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.26	
76-13-1	Trichlorotrifluoroethane	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	8.0	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M1 = Matrix interference due to coelution with a non-target compound; results may be biased high.

E = Estimated; concentration exceeded calibration range.

Verified By: _____ Date: 6/18/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 2 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Background
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Elsa Moctezuma
 Sampling Media: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC00686

Date Collected: 1/8/10
 Date Received: 1/11/10
 Date Analyzed: 1/13/10
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m³	µg/m³	ppbV	ppbV	
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	
110-54-3	n-Hexane	1.6	0.80	0.46	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	1.3	0.80	0.43	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	1.3	0.80	0.40	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	0.83	0.80	0.20	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	12	0.80	3.1	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 3 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Background
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Elsa Moctezuma
 Sampling Media: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC00686

Date Collected: 1/8/10
 Date Received: 1/11/10
 Date Analyzed: 1/13/10
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	1.9	1.6	0.44	0.37	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	1.4	0.80	0.28	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	2.2	0.80	0.40	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: _____

Date: 1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Background
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
CAS Sample ID: P1000088-001

Tentatively Identified Compounds

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes: T
Container ID: AC00686

Date Collected: 1/8/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.60

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.71	Propane	11	
5.42	Isobutane	16	
5.98	n-Butane	16	
8.65	n-Pentane	6.2	
11.07	Trimethylsilanol	4.6	
11.32	2-Methylpentane	5.3	
23.87	Benzaldehyde	5.2	
24.95	n-Decane	6.9	
	TVOC as Toluene	170	

T = Analyte is a tentatively identified compound, result is estimated.

Verified By: _____



Date: _____

1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Low Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01526

Date Collected: 1/9/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	3.4	0.79	2.0	0.46	M1
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.79	0.46	0.16	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.36	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	14	7.9	7.3	4.2	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	21	7.9	8.8	3.3	M1
75-69-4	Trichlorofluoromethane	1.4	0.79	0.25	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	8.7	1.6	3.6	0.64	
107-13-1	Acrylonitrile	ND	0.79	ND	0.36	
75-35-4	1,1-Dichloroethene	ND	0.79	ND	0.20	
75-09-2	Methylene Chloride	4.0	0.79	1.2	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.79	ND	0.25	
76-13-1	Trichlorotrifluoroethane	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	7.9	ND	2.5	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	7.9	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M1 = Matrix interference due to coelution with a non-target compound; results may be biased high.

E = Estimated; concentration exceeded calibration range.

Verified By: _____ Date: 6/18/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 3 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Low Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01526

Date Collected: 1/9/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.79	ND	0.12	
108-90-7	Chlorobenzene	ND	0.79	ND	0.17	
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.79	ND	0.19	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
111-84-2	n-Nonane	ND	0.79	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.12	
98-82-8	Cumene	ND	0.79	ND	0.16	
80-56-8	alpha-Pinene	ND	0.79	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.79	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
5989-27-5	d-Limonene	ND	0.79	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.79	ND	0.082	
120-82-1	1,2,4-Trichlorobenzene	ND	0.79	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[Signature]

1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU Low Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
CAS Sample ID: P1000088-002

Tentatively Identified Compounds

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes: T
Container ID: AC01526

Date Collected: 1/9/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.2 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.58

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
5.44	Acetaldehyde	7.7	
	TVOC as Toluene	89	

T = Analyte is a tentatively identified compound, result is estimated.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU High Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00285

Date Collected: 1/10/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.9	0.77	1.1	0.45	M1
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.77	0.46	0.16	
74-87-3	Chloromethane	ND	0.77	ND	0.37	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.77	ND	0.30	
106-99-0	1,3-Butadiene	ND	0.77	ND	0.35	
74-83-9	Bromomethane	ND	0.77	ND	0.20	
75-00-3	Chloroethane	ND	0.77	ND	0.29	
64-17-5	Ethanol	8.1	7.7	4.3	4.1	
107-02-8	Acrolein	ND	3.1	ND	1.3	
67-64-1	Acetone	19	7.7	7.8	3.2	
75-69-4	Trichlorofluoromethane	1.4	0.77	0.25	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	1.5	1.3	0.63	
107-13-1	Acrylonitrile	ND	0.77	ND	0.35	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	3.1	0.77	0.91	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.77	ND	0.25	
76-13-1	Trichlorotrifluoroethane	ND	0.77	ND	0.10	
75-15-0	Carbon Disulfide	ND	7.7	ND	2.5	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.7	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	7.7	ND	2.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M1 = Matrix interference due to coelution with a non-target compound; results may be biased high.

E = Estimated; concentration exceeded calibration range.

Verified By: _____ Date: 6/18/10
 TO15scan.xls - 75 Compound + TICs - PageNo.:

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 2 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU High Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00285

Date Collected: 1/10/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.54

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
156-59-2	cis-1,2-Dichloroethene	ND	0.77	ND	0.19	
141-78-6	Ethyl Acetate	ND	1.5	ND	0.43	
110-54-3	n-Hexane	0.92	0.77	0.26	0.22	
67-66-3	Chloroform	ND	0.77	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.77	ND	0.26	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.77	ND	0.14	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.77	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.45	
78-87-5	1,2-Dichloropropane	ND	0.77	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	ND	0.77	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.77	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.38	
142-82-5	n-Heptane	ND	0.77	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.77	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.77	ND	0.14	
108-88-3	Toluene	8.3	0.77	2.2	0.20	
591-78-6	2-Hexanone	ND	0.77	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.77	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.77	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: _____ Date: 1/13/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 3 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU High Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P1000088-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00285

Date Collected: 1/10/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.77	ND	0.11	
108-90-7	Chlorobenzene	ND	0.77	ND	0.17	
100-41-4	Ethylbenzene	ND	0.77	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.5	ND	0.35	
75-25-2	Bromoform	ND	0.77	ND	0.075	
100-42-5	Styrene	ND	0.77	ND	0.18	
95-47-6	o-Xylene	ND	0.77	ND	0.18	
111-84-2	n-Nonane	ND	0.77	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
80-56-8	alpha-Pinene	ND	0.77	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.77	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.77	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.77	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.77	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
5989-27-5	d-Limonene	ND	0.77	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.77	ND	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	0.77	ND	0.10	
91-20-3	Naphthalene	ND	0.77	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.77	ND	0.072	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: _____ Date: 1/18/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: HGI Industries, Inc.
Client Sample ID: MDU High Setting
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
CAS Sample ID: P1000088-003

Tentatively Identified Compounds

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes: T
Container ID: AC00285

Date Collected: 1/10/10
Date Received: 1/11/10
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.9 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.54

GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
4.72	Propane	6.5	
5.45	Acetaldehyde	6.6	
	TVOC as Toluene	69	

T = Analyte is a tentatively identified compound, result is estimated.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 4

Client: HGI Industries, Inc.
Client Sample ID: Method Blank
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P100113-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.41	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 2 of 4

Client: HGI Industries, Inc.
Client Sample ID: Method Blank
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P100113-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result	MRL	Result	MRL	Data Qualifier
		µg/m ³	µg/m ³	ppbV	ppbV	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: _____

Date: 1/13/10

TO15scan.xls - 75 Compound + TICs - PageNo.:

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 3 of 4

Client: HGI Industries, Inc.
Client Sample ID: Method Blank
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P100113-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: _____ Date: 1/18/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: HGI Industries, Inc.
Client Sample ID: Method Blank
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
CAS Sample ID: P100113-MB

Tentatively Identified Compounds

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/13/10
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
No Compounds Detected			

COLUMBIA ANALYTICAL SERVICES, INC.

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: HGI Industries, Inc.
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 1/8 - 1/10/10
Date(s) Received: 1/11/10
Date(s) Analyzed: 1/13/10

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P100113-MB	102	70-130	100	70-130	97	70-130	
Lab Control Sample	P100113-LCS	100	70-130	98	70-130	102	70-130	
MDU Background	P1000088-001	103	70-130	99	70-130	96	70-130	
MDU Low Setting	P1000088-002	103	70-130	99	70-130	95	70-130	
MDU High Setting	P1000088-003	103	70-130	99	70-130	95	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: HGI Industries, Inc.
Client Sample ID: Lab Control Sample
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P100113-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/13/10
Volume(s) Analyzed: NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
					Acceptance Limits	
115-07-1	Propene	26.3	22.9	87	58-133	
75-71-8	Dichlorodifluoromethane (CFC 12)	26.0	22.0	85	63-114	
74-87-3	Chloromethane	25.0	19.9	80	60-130	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	26.0	22.1	85	63-118	
75-01-4	Vinyl Chloride	25.3	21.9	87	63-123	
106-99-0	1,3-Butadiene	26.8	24.9	93	63-141	
74-83-9	Bromomethane	25.8	22.8	88	67-133	
75-00-3	Chloroethane	25.5	22.1	87	65-122	
64-17-5	Ethanol	130	126	97	54-137	
107-02-8	Acrolein	26.3	23.0	87	61-131	
67-64-1	Acetone	132	115	87	60-117	
75-69-4	Trichlorofluoromethane	26.3	22.1	84	62-125	
67-63-0	2-Propanol (Isopropyl Alcohol)	48.0	39.4	82	57-125	
107-13-1	Acrylonitrile	25.8	26.5	103	66-136	
75-35-4	1,1-Dichloroethene	27.5	24.9	91	71-121	
75-09-2	Methylene Chloride	26.8	23.0	86	67-109	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	27.0	27.2	101	64-145	
76-13-1	Trichlorotrifluoroethane	27.5	24.7	90	71-124	
75-15-0	Carbon Disulfide	26.0	23.9	92	64-119	
156-60-5	trans-1,2-Dichloroethene	25.5	24.1	95	68-126	
75-34-3	1,1-Dichloroethane	26.5	24.4	92	67-124	
1634-04-4	Methyl tert-Butyl Ether	26.3	23.9	91	67-124	
108-05-4	Vinyl Acetate	126	99.4	79	50-171	
78-93-3	2-Butanone (MEK)	26.8	25.8	96	69-136	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: HGI Industries, Inc.
Client Sample ID: Lab Control Sample
Client Project ID: Odorox - MDU, ODHG00090

CAS Project ID: P1000088
 CAS Sample ID: P100113-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Elsa Moctezuma
 Sampling Media: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/13/10
 Volume(s) Analyzed: NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	27.0	25.5	94	68-123	
141-78-6	Ethyl Acetate	52.0	48.0	92	75-131	
110-54-3	n-Hexane	26.0	24.8	95	63-118	
67-66-3	Chloroform	27.5	24.3	88	66-124	
109-99-9	Tetrahydrofuran (THF)	26.5	24.9	94	66-129	
107-06-2	1,2-Dichloroethane	26.3	24.2	92	64-125	
71-55-6	1,1,1-Trichloroethane	26.0	24.2	93	71-123	
71-43-2	Benzene	25.8	22.8	88	63-112	
56-23-5	Carbon Tetrachloride	26.3	25.5	97	73-129	
110-82-7	Cyclohexane	51.8	48.0	93	68-118	
78-87-5	1,2-Dichloropropane	26.0	24.4	94	74-122	
75-27-4	Bromodichloromethane	26.3	25.9	98	75-125	
79-01-6	Trichloroethene	25.8	23.9	93	66-120	
123-91-1	1,4-Dioxane	26.0	23.9	92	75-127	
80-62-6	Methyl Methacrylate	52.8	53.4	101	80-130	
142-82-5	n-Heptane	25.8	24.3	94	71-121	
10061-01-5	cis-1,3-Dichloropropene	24.5	25.4	104	77-130	
108-10-1	4-Methyl-2-pentanone	26.8	25.1	94	74-134	
10061-02-6	trans-1,3-Dichloropropene	27.0	29.2	108	78-134	
79-00-5	1,1,2-Trichloroethane	26.0	24.7	95	76-122	
108-88-3	Toluene	26.8	23.6	88	66-120	
591-78-6	2-Hexanone	27.0	23.3	86	72-135	
124-48-1	Dibromochloromethane	28.3	28.5	101	79-136	
106-93-4	1,2-Dibromoethane	26.3	25.3	96	76-129	
123-86-4	n-Butyl Acetate	27.5	22.4	81	68-138	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: **HGI Industries, Inc.**
 Client Sample ID: **Lab Control Sample**
 Client Project ID: **Odorox - MDU, ODHG00090**

CAS Project ID: P1000088
 CAS Sample ID: P100113-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
 Analyst: Elsa Moctezuma
 Sampling Media: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/13/10
 Volume(s) Analyzed: NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	26.3	25.1	95	71-122	
127-18-4	Tetrachloroethene	25.3	22.9	91	65-132	
108-90-7	Chlorobenzene	26.5	24.4	92	66-122	
100-41-4	Ethylbenzene	26.3	24.6	94	69-122	
179601-23-1	m,p-Xylenes	51.5	49.1	95	69-122	
75-25-2	Bromoform	26.5	24.6	93	73-150	
100-42-5	Styrene	26.3	25.8	98	75-130	
95-47-6	o-Xylene	26.0	24.6	95	69-122	
111-84-2	n-Nonane	25.8	24.9	97	68-125	
79-34-5	1,1,2,2-Tetrachloroethane	27.0	25.9	96	80-126	
98-82-8	Cumene	25.3	23.7	94	70-123	
80-56-8	alpha-Pinene	24.8	23.8	96	75-128	
103-65-1	n-Propylbenzene	25.3	24.7	98	70-125	
622-96-8	4-Ethyltoluene	26.3	25.3	96	71-129	
108-67-8	1,3,5-Trimethylbenzene	26.5	26.2	99	71-125	
95-63-6	1,2,4-Trimethylbenzene	25.5	26.9	105	69-132	
100-44-7	Benzyl Chloride	26.8	26.4	99	78-144	
541-73-1	1,3-Dichlorobenzene	26.0	26.1	100	65-132	
106-46-7	1,4-Dichlorobenzene	26.3	25.5	97	66-126	
95-50-1	1,2-Dichlorobenzene	25.8	26.1	101	67-134	
5989-27-5	d-Limonene	26.5	24.9	94	68-149	
96-12-8	1,2-Dibromo-3-chloropropane	27.0	25.8	96	76-150	
120-82-1	1,2,4-Trichlorobenzene	27.3	26.9	99	66-145	
91-20-3	Naphthalene	25.0	26.2	105	71-147	
87-68-3	Hexachlorobutadiene	26.8	25.7	96	65-140	

Verified By: _____ Date: 1/13/10
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