



## Safe Quality Food Standard: 5 Compressed Air Criteria

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## Safe Quality Food Standard: 5 Compressed Air Criteria

Phil Kruger, *Harris Equipment*  
*Keynote Speaker*

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## Handouts

The screenshot shows the BEKO website interface. At the top, there's a navigation menu with options like 'Products', 'Service', 'Dealer', 'News', 'Company', 'Careers', and 'Contact'. Below the menu is a search bar and a language selector. The main content area is divided into several sections: 'Downloads' with a list of categories like 'Condensate technology', 'Filtration', 'Lubrication', and 'Measurement technology'; 'Training' with 'Online Tools' and 'Virtual Compressor Station'; 'Certificates' with a list of ISO 9001 and ISO 9002 certifications; and 'Product portfolio' with a 'View all products' link. The BEKO logo and 'USA Canada Latin America' are visible in the top left corner.

The screenshot displays the TRACE Analytics website. The main heading is 'Downloads & References: CABP Webinar: Testing, Monitoring and Documenting Your Air System'. Below this, there's a 'Resources & Reports' section with links for 'SQF Edition 8, Summary', 'Monitoring Plans', and 'Reports Explained'. An 'Articles' section follows, featuring links for 'Risk Assessment Article', 'Using ISO 8573-1 to Test Compressed Air: Clearing the Confusion', 'Assessing the Impact of Compressed Air Quality on Food Products', and 'The Seven Principles of HACCP Application: Compressed Air Systems'. The bottom of the page features logos for 'COMPRESSED AIR BEST PRACTICES', 'TRACE Analytics', 'HACCP CERTIFIED', and 'SQF'. Contact information 'Sales@airchecklab.com' and '1-800-247-1024 x 5' is provided at the very bottom.

The screenshot shows the BEKO website for the 'THE INAUGURAL 3-DAY CONFERENCE & EXPO!'. The main heading is 'THE INAUGURAL 3-DAY CONFERENCE & EXPO! IMPROVING PLANT PROFITABILITY THROUGH INDUSTRIAL UTILITY OPTIMIZATION'. The page is divided into several sections: 'Why' (explaining the importance of compressed air efficiency), 'Who' (listing target audiences like Plant Managers and Engineers), 'Registration' (providing a table of costs for different registration types), '2018 EXPO HALL OPEN HOURS' (listing dates and times), and 'THANKS TO OUR SPONSORS' (listing various industry partners like Kaeser, Atlas Copco, and Sullair). The BEKO logo is in the top left corner.

	Before 7/15/18	After 7/15/18
Single Day Conference Pass:	\$380	\$475
Full Conference Pass:	\$700	\$875

Date	Time	Cost
Monday, September 17	4:30 pm - 7:30 pm	FREE
Tuesday, September 18	11:30 am - 7 pm	FREE
Wednesday, September 19	10:30 am - 6 pm	FREE

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## Safe Quality Food Standard: 5 Compressed Air Criteria

Introduction by *Rod Smith*, Publisher  
Compressed Air Best Practices® Magazine

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## About the Speaker



**Phil Kruger**  
Harris Equipment

- General Manager of Harris Equipment

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**SQF and your Air: What you have, what you want and how to get there.**

**Phil Kruger**  
Harris Equipment



# Compressed Air Quality

## Topics we will cover:

1. How to profile your current air system / air treatment to determine what your air quality should be
2. How to determine and achieve level of quality you would like per ISO 8573-1-2010
3. What to do to prove it

**Directives: SQF 11.5.7 Edition 7.2 – July 2014**

**ISO 8573-1-2010**

**BCAS – Best Practice Guideline 102**





# Compressed Air Quality

## What Does SQF Say About Compressed Air?

### 11.5.7 Air Quality

11.5.7.1 Compressed air used in the manufacturing process shall be clean and present no risk to food safety.

11.5.7.2 Compressed air used in the manufacturing process shall be regularly monitored for purity.



# Compressed Air Quality

## What Does SQF Say About Compressed Air?

“...clean and present no risk”

“...regularly monitored for purity”

SQF Code Module 11 Guidance Document offers some, regarding filtration and air testing and states simply that ...

*“The recommended final stage of filtration in these food contact areas should have a rating of 0.01 micron with an efficiency of 99.999%...”*

*“...testing must be conducted at a minimum of once a year.”*



# Compressed Air Quality

## What Does SQF Say About Compressed Air?

SQF doesn't offer any quantifiable standard that you can set your standard to. The level of quality is vague and leaves a lot of room for interpretation.

But,

ISO has established a quantifiable purity chart that allows you to measure your system and give it a value. Lets look at it...



# Compressed Air Quality

## ISO8573-1

ISO8573-1:2010 CLASS	Solid Particulate				Water		Oil
	Maximum number of particles per m <sup>3</sup>			Mass Concentration mg/m <sup>3</sup>	Vapor Pressure Dewpoint	Liquid g/m <sup>3</sup>	Total Oil (aerosol liquid and vapor)
	0.1 - 0.5 micron	0.5 - 1 micron	1 - 5 micron				mg/m <sup>3</sup>
0	As specified by the equipment user or supplier and more stringent than Class 1						
1	≤ 20,000	≤ 400	≤ 10	-	≤ -100°F (-70°C)	-	0.01
2	≤ 400,000	≤ 6,000	≤ 100	-	≤ -40°F (-40°C)	-	0.1
3	-	≤ 90,000	≤ 1,000	-	≤ -4°F (-20°C)	-	1
4	-	-	≤ 10,000	-	≤ +37.4°F (+3°C)	-	5
5	-	-	≤ 100,000	-	≤ +44.6°F (+7°C)	-	-
6	-	-	-	≤ 5	≤ +50°F (+10°C)	-	-
7	-	-	-	5 - 10	-	≤ 0.5	-
8	-	-	-	-	-	0.5 - 5	-
9	-	-	-	-	-	5 - 10	-
X	-	-	-	> 10	-	> 10	> 10



# Compressed Air Quality

## Where to start?

Identify and Inventory :

Compressed Air Equipment

Compressed Air Treatment (Dryers and Filtration)

Compressed Air Sampling and Testing

Compressed Air Maintenance Program

Documentation



# Compressed Air Quality

## Where to start?

Once you have preliminarily profiled your compressed air system, it's time to establish what is an adequate and suitable level of quality for your process and application.

Lets take a look at an example...



# Compressed Air Quality

For example if company (A) had the following

*Oil Flooded Rotary Screw(s) with (Food Grade Lubrication)*

*Particulate Inline Filter rated at 1- 5 Micron with  $\leq 10 \mu\text{m}$*

*38°F PDP Standard Refrigerated Air Dryer (if performing as published)*

*0.01 mg/m<sup>3</sup> Inline Coalescing Filter*

**Its class would be Class ISO 8573-1 [1:4:1]**

(This is merely a profile based on equipment identification and inventory)

**Is this the level of purity your company desires?**



# Compressed Air Quality

## What Now?

The answer to that question is up to you. You have to determine what your level of air quality will look like.

Although there is no real actual standard, some recommendations / guidelines that exist in the industry come to us from the BCAS (British Compressed Air Society *section 7.3.3/4*) and are as follows:



*For **direct contact** applications, a class rating of 2.2.1 is recommended*

*For **indirect contact** applications, a class rating of 2.4.2 is recommended*





# Compressed Air Quality

## What Now?

Based on your current inventory and preliminary profile, it's time to establish your desired air quality standard and create a **action / compliance** plan to take the necessary steps to achieve and maintain your company's standard.

This can be achieved in two measures:

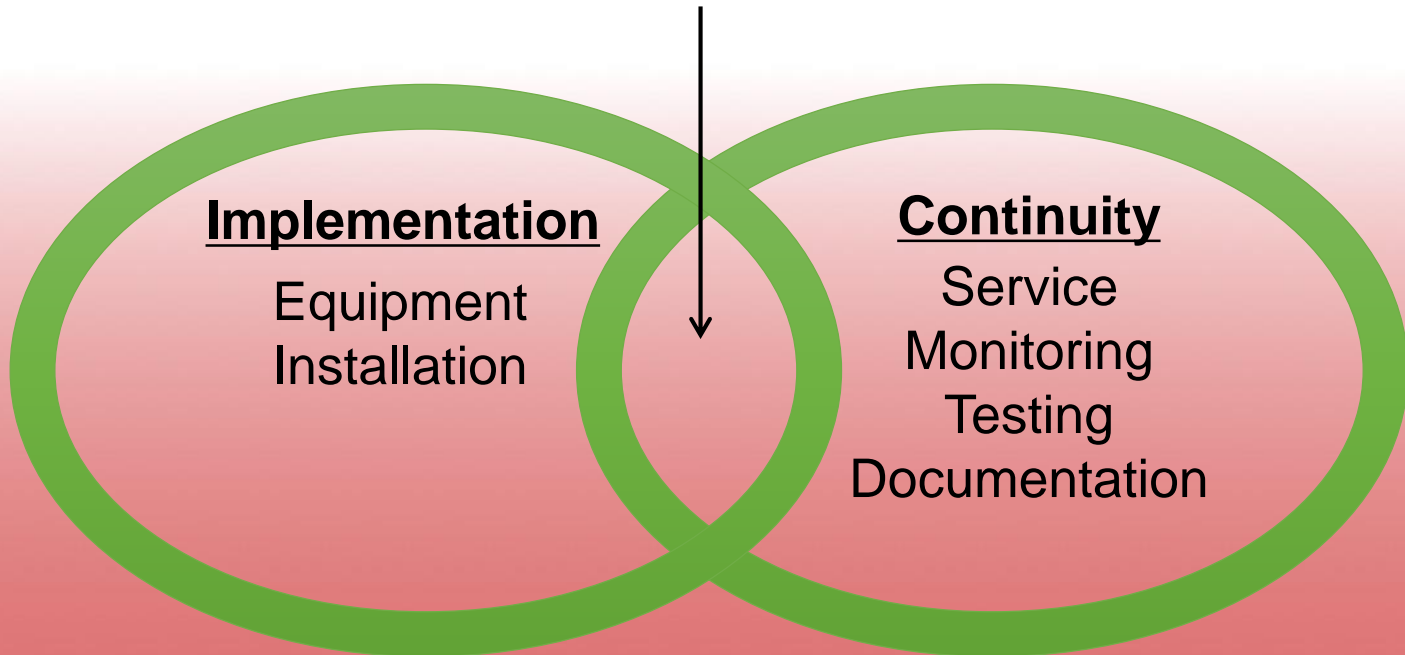
- I. Implementation
- II. Continuity



# Compressed Air Quality

## What Does a Compliance Plan Look Like?

### Compliance





# Compressed Air Quality

## Proposed Compliance Plan

### Implementation

#### **I. Equipment:** Compressor(s)

Filtration

Dryers

Drains

Dew Point Meters

Hydrocarbon Meters

#### **II. Installation:** Correct and strategic installation of equipment



# Compressed Air Quality

## Proposed Compliance Plan

### Continuity

- I. **Service:** Predictive Maintenance  
Preventative Maintenance  
Scheduled Maintenance  
Emergency Maintenance  
Emergency Contingencies
  
- II. **Monitoring:** Continuous, scheduled and **documented** monitoring of above services and steps taken to provide quality air
  
- III. **Testing:** Standardized, continuous and documented 3<sup>rd</sup> party testing of air



# Compressed Air Quality

## Proposed Compliance Plan

### Continuity (cont'd)

#### Last but NOT least

- IV. Documentation:** Reports  
Results  
Repairs

If it's not documented, it did not happen



# Compressed Air Quality

**Questions?**

Phil Kruger

847-833-1759

[pkruiger@harrisequipment.com](mailto:pkruiger@harrisequipment.com)

# COMPRESSED AIR BEST PRACTICES

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## About the Speaker



**Randall Corthouts**  
BEKO Technologies

- Regional Sales Manager for BEKO Technologies



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*By Randall Corthouts – BEKO Technologies*

***Helping you meet SQF Guidelines***





## The actual SQF Code, Edition 7.2, July 2014

### 11.5.7.1

*Compressed air that contacts food or food contact surfaces shall be clean and present no risk to food safety.*

### 11.5.7.2

*Compressed air systems used in the manufacturing process shall be maintained and regularly monitored for purity.*

Also been issued is the “Implementation Guidance” for the SQF code. Some excerpts:

*“...air must not contribute any contamination to the product.”*

*“...when compressed air comes in contact with exposed product.....the air compressor must use food grade oil.”*

*“...appropriate filtration program is in place....”*

*“...filtration....have a rating of 0.01 micron....”*

*“...testing must be conducted at a minimum of once a year....”*

*“...microbiological testing....”*

*“...an effective PM program should be in place....”*

*“...ISO 8573-1 standard....a very good reference....”*



# ISO 8573-1

## Air quality classes in accordance with ISO 8573-1:2010

Class	Solid particles, max. number of particles per m <sup>3</sup>			Pressure dew point °F	Oil content (liquid, aerosol, oil vapor) mg/m <sup>3</sup>	Grade	Microorganism content cfu/m <sup>3</sup>
	0.1 μm < d ≤ 0.5 μm	0.5 μm < d ≤ 1.0 μm	1.0 μm < d ≤ 5.0 μm				
0	In accordance with the unit operator's or supplier's specifications, stricter requirements than class 1						
1	≤20,000	≤400	≤10	≤-100	≤0.01	A	< 1
2	≤400,000	≤6,000	≤100	≤-40	≤0.1	B	10
3	-	≤90,000	≤1,000	≤-4	≤1	C	100
4	-	-	≤10,000	≤37	≤5	D	200
5	-	-	≤100,000	≤45	>5		
6	-	-	-	≤50	-		-

A hydrocarbon is an organic compound (molecule) which consists entirely of hydrogen and carbon atoms (C and H atoms). The "length" of the molecule chain can vary and defines its complexity.

Micro-organisms (viruses, bacteria) are built from hydrocarbons. If you destroy (crack) them, the microorganism will die.

Ambient air can have a microorganism pollution of more than 300 CFU/m<sup>3</sup> (CFU = colony-forming unit). In microbiology, a CFU is a unit used to estimate the number of viable bacteria or fungal cells in a sample.

psi [a] absolute, 68 °F, 0% RH  
 conditions 14.5 psi [a] absolute, 68 °F, 0% RH

## How does contamination enter the compressed air system?

- Will an oil-free compressor provide the solution ?  
NO, it is oil-free but it is not hydrocarbon free!
- The compressor air intake.
- Compressed air lines.  
Contraction, condensation, sedimentation, oxidation.
- Air leaks.
- Failing or inadequately designed filtration system.
- Activated carbon filters.  
You store the hydrocarbons, you do not remove them!

This is called the "BIO-BURDEN".



## How do we regularly monitor for purity to ISO 8573-1 ?

Periodic air sample testing is widely used.

However, it is not real-time analysis. It needs to be sent off-site to laboratories with a typical waiting time of 48 hours or more - while production continues with unknown air quality. If the results come back positive for hydrocarbons, the consequences could be severe.

Wouldn't it be better to perform the periodic air sample testing at an interval that you determine? Maybe together with a data-logger ?

Meet METPOINT from BEKO Technologies.

Meet METPOINT OCV from BEKO Technologies  
Measuring oil and hydrocarbon content.  
Liquid, aerosol and oil vapor !!!

Real time analytics of your compressed air!





# METPOINT OCV



Oil vapor monitoring system with monitoring unit and display unit separate.

- Continuous air sampling.
- Includes full data log capability.
- Network ready.
- 4...20 mA optional.
- Down to 0.001 mg/m<sup>3</sup> accuracy !!!!!



# METPOINT OCV – How does it work?

Reference Clean Air Generator



Measuring Cell:  
Photo Ionization Detection (PID)  
by UV light.

The amplified signal from the PID sensor is then sent to the METPOINT OCV monitor where it is evaluated and displayed.





## Eliminating the hydrocarbons - BEKOKAT

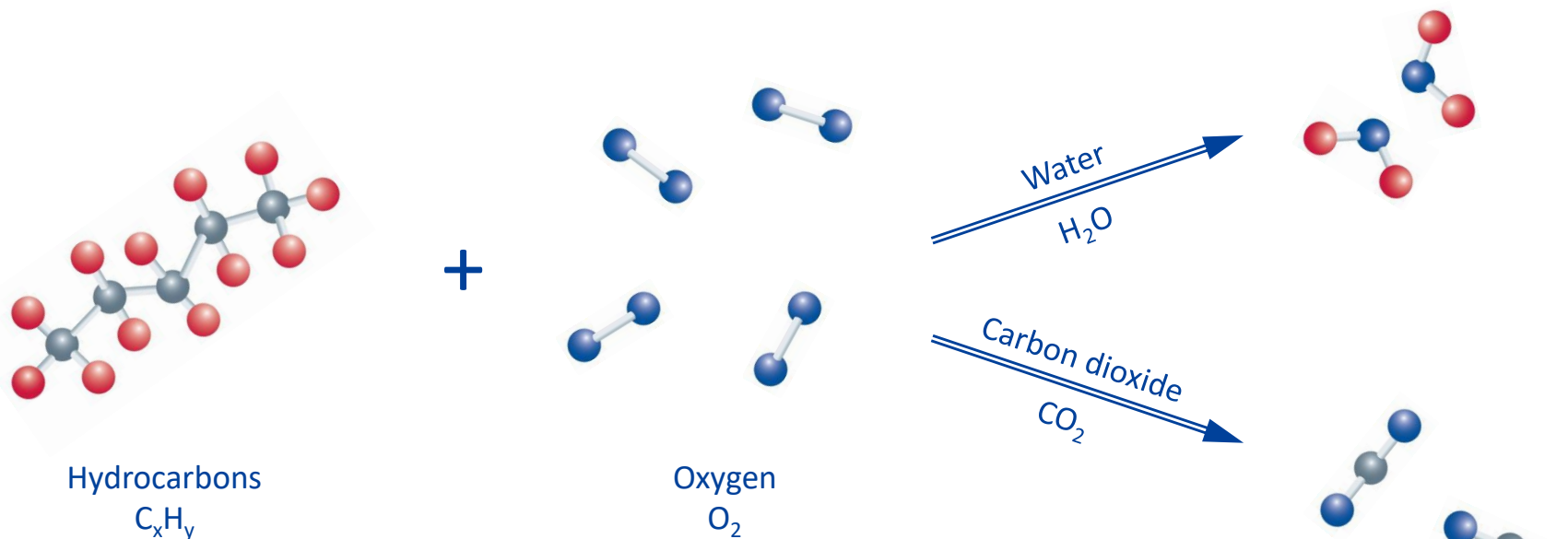
The BEKOKAT is a standalone, all-in-one, in-line hydrocarbon and bacteria removal system independent from ambient conditions. It will do this irrespective of the type of compressor being used in the compressed air system.

The BEKOKAT converts hydrocarbon contaminated compressed air (oil, bacteria, viruses and other hydrocarbons) into 100% clean, oil free and sterile compressed air, with the help of molecule cracking.

The BEKOKAT is a catalytic convertor for compressed air.

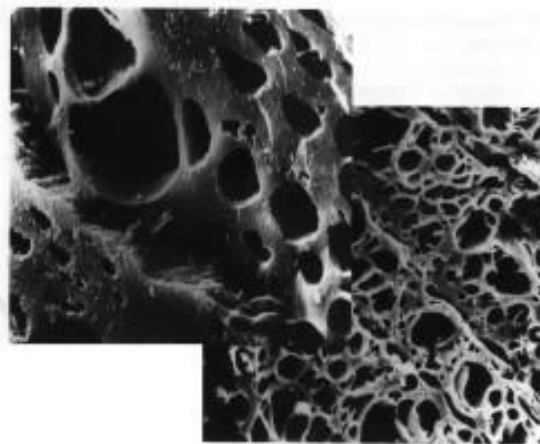


# BEKOKAT – How does it work?



Hydrocarbons  
C<sub>x</sub>H<sub>y</sub>

Oxygen  
O<sub>2</sub>



The catalytic granulate is a mixture of copper oxide, manganese oxide and potassium carbonate.





## CONCLUSION

Implementing a solid maintenance program with proper record keeping and regular monitoring – preferable **continuously monitoring** – will assure that the SQF recommendations are satisfied. Avoiding and **eliminating hydrocarbons** in all its forms will prevent possible destruction of product, costly shutdowns, product recalls or even worse product that has made it to the customer and is the source of a foodborne illness or death.



Thank you for your time.

Randall Corthouts – BEKO Technologies



# COMPRESSED AIR BEST PRACTICES

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## About the Speaker



**Ruby Ochoa**  
Trace Analytics

- Owner and President of Trace Analytics with over 35 years of experience
- Ochoa has written for and holds membership with the following committees:
  - The International Society of Pharmaceutical Engineers (ISPE)
  - The Medical Gas Professional Healthcare Organization (MGPHO)
  - The National Fire Protection Agency (NFPA) Technical Committee for Respiratory Protection



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# **TRACE** Analytics LLC

## The AirCheck Laboratory

*Testing, Monitoring, and Documenting Your Air System:  
According to the New SQF Code*

Ruby Ochoa | President & Co-Owner | 1-800-247-1024 ext. 211 | [ruby@airchecklab.com](mailto:ruby@airchecklab.com)

# What we'll be covering

1

Establishing a Monitoring Plan

2

Compressed Air Testing

3

Testing Documentation

4

About Trace Analytics

# SETTING UP A MONITORING PLAN

ACCORDING TO



# MONITORING PLANS

## SQF Ed. 8 REQUIREMENTS & RECOMMENDATIONS

11.5.5.2 – Compressed air and other gases must be clean and regularly monitored

12.5.3.1 – A system shall be in place to monitor the purity of filtered air



PERCENTAGE



MAINTENANCE



MINIMAL



SINGLE

# SQF Ed. 8 REQUIREMENTS & RECOMMENDATIONS

13.5.3.2 – Compressed air systems shall be monitored and completed annually at a minimum

ANNUALLY

SEMI-ANNUALLY

QUARTERLY



## TESTING FREQUENCY



# TESTING YOUR COMPRESSED AIR SYSTEM

ACCORDING TO



# THE AIRCHECK KIT



✓ PARTICLES, WATER & TOTAL OIL

**BASIC**  
**QUALITY RANGE\***  
*For low-risk use and tight deadlines*

starter package

**VALUE**  
**QUALITY RANGE\***  
*For general audit and quality needs*

**PRO**  
*For meeting corporate and global quality standards*

- Designed for high-risk, critical applications
- 3-5 day turnaround
- 30-120 minute sampling time\*\*

**HIGH RISK**

ISO 8573 PURITY CLASSES	PARTICLES	CLASSES 1, 2, 3, 4, 5, 6, 7
	WATER	CLASSES 1 - 6
	OIL	CLASSES 1, 2, 3, 4

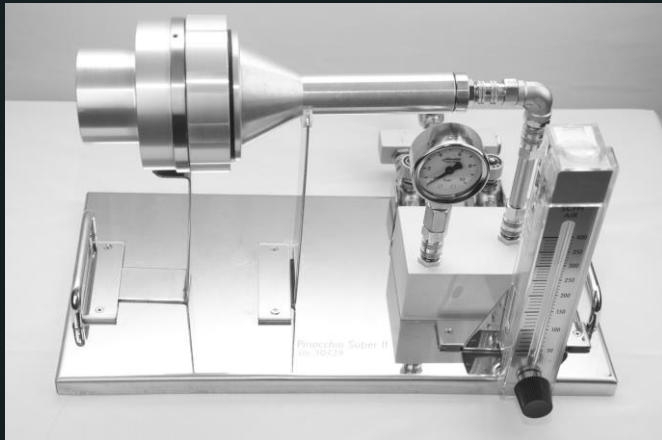
\*Unless specific classes are reported within Basic Range

\*Unless specific classes are reported within Value Range

\*\*Specific purity classes must be chosen

# TESTING OPTIONS

# THE MICRO SAMPLER



✓ MICROORGANISMS

## MICRO

*Sampling per ISO 8573-7 guidelines*

- 10 minute sampling time
- Gram staining and further identification available for CFU'S

*Results reported CFU's per cubic meter*

B	BACTERIA
M	MOLD
Y	YEAST

## TESTING OPTIONS

# DOCUMENTING YOUR MONITORING PLAN

ACCORDING TO



# DOCUMENTATION: ISO 17025 ACCREDITED REPORT



**TRACE Analytics** 15768 Hamilton Pool Road, Austin, Texas 78738  
800-AIR-1024 or 512-263-0000 | Fax 512-263-0002  
E-mail: ServiceTeam@AirCheckLab.com

**AirCheck Report™** **BASELINE**

To: Mr. Joe Brown, XYZ Food Co., 12345 Long Street, Austin, TX 78730

Customer: 26087  
Report: 17-3061

Sampled: Tue, Sep 19, 2017  
Received: Mon, Oct 30, 2017

By: Joe Brown  
Analyzed: Fri, Sep 29, 2017

For: XYZ Food Co.  
Reported: Mon, Oct 30, 2017

Sampling Point: Collection Point Line 4  
System: Low Pressure (1,000 psig)  
Purification: Molecular Sieve/Carbocant  
Point of Use Filter

Purchase Order No.: A03573

Results vs ISO 8573-1:2010 Compressed Air Contaminants - Baseline Test

Contaminant	Limiting Characteristics	Particulate Class (µ)	Sample Results	Specification Limit	Pass / Fail	Estimate of Uncertainty, % (1)
Particulates	Microscopic Number of Particles per Cubic Meter (n <sub>p</sub> ) as a Function of Particle Size, µm	0.1 < d ≤ 0.5 µm	(A)	≤400,000	PASS	±22
		0.5 < d ≤ 1.0 µm		≤3,000		±22
		1.0 < d ≤ 5.0 µm		≤100		±22
Water	By Mass Concentration (C <sub>w</sub> ) mg/m <sup>3</sup>		0.046	None	PASS	±1.3
	Pressure Dew Point, °C		-3	≤-3	PASS	±30
Oil	Oil Aerosol, mg/m <sup>3</sup>		<0.003	None	PASS	±4.8
	Oil Vapor, mg/m <sup>3</sup>		<0.016	None	PASS	±5.3
	Total Oil, mg/m <sup>3</sup>		0.016	≤0.1	PASS	±11
Other (2)						

Notes:  
 (1) n/a = not applicable; n/d = not determined; n/p = not provided; n/s = not specified; None (or 0) indicates <LOQ. 1 = Trace, <LOQ & <LOQ  
 (2) Status noted in ISO 8573:1 Table 2 under other measurements requested by the customer or customer.  
 (3) By agreement between the customer and laboratory, the report does not include 0.1-0.5 µm particles.  
 (4) If a "baseline" sample, the most restrictive data for the sample process was selected.  
 (5) Liquid CO<sub>2</sub> and/or Liquid Water may not be required for this class; not indicated not determined.

Lab Director: Richard A. Smith, Laboratory Director

**TRACE Analytics** 15768 Hamilton Pool Road, Austin, Texas 78738  
800-AIR-1024 or 512-263-0000 | Fax 512-263-0002  
E-mail: ServiceTeam@AirCheckLab.com

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By: Joe Brown  
Analyzed: Fri, Sep 29, 2017

For: XYZ Food Co.  
Reported: Mon, Oct 30, 2017

Sampling Point Identification: Collection Point Line 4  
System: Low Pressure (1,000 psig)  
Purification: Molecular Sieve/Carbocant  
Point of Use Filter

Customer Comments:

Sampling Schedule: The sampling schedule is recorded as: Semi-Annual  
The next sample due approximately: 3/19/2018

Sample Collection Information

Parameter	Media No.	Flow Rate (L/min)	Sampling Time (min:sec)	Blank	For Detector Tubes Only	Note
					Reading	Scale
Formaldehyde	61920	50	24:00			
Water Vapor (Particulate & Oil Aerosol)	50a-P-aramine				right	200
Lead Water	20a-P-aramine	4	4:00		450	500
Oil Liquid	/					
Sulfur Dioxide, SO <sub>2</sub>	0.5a-P-aramine					ppm
Nitrogen Oxides, NO <sub>x</sub>	0.5a-P-aramine					ppm
Oil Vapor	NOVA	4	10:00	613853		
CO, CO <sub>2</sub> , HC						

Fluorometer Calibration Information

Fluorometer Type	Serial No.	Calibration Date	Calibration Due
Filter Fluorometer			
Tube Fluorometer			

NOTE: Blank fields indicate that samples were not obtained for the given limiting characteristic and no analytical results are presented.

Test Methods

Method	Contaminant	Sampling Technique	Analytical Technique	Accredited	Cal. Cert. No.
CAT-A-01	Gases (CO, CO <sub>2</sub> , H <sub>2</sub> )	Gas Collection Tube	Gas Chromatography - MET/FID	Yes	201722-01
CAT-A-03	Particulates by Mass	Membrane Filter (0.2 µm)	Gravimetry	Yes	201722-03
CAT-A-03	Oil Aerosol	Membrane Filter (0.2 µm)	Extraction - Gravimetry	Yes	201722-03
CAT-A-04	Particulates by Size	Membrane Filter (0.2 µm)	Optical Microscopy	Yes	201722-04
CAT-A-05	Oil Vapor	Charcoal Tube	Gas Chromatography - Mass Spectrometry	Yes	201722-05
CAT-A-07	Pressure Dewpoint	Gas Detector Tube	Chemical Length-of-Column	Yes	201722-07
CAT-A-08	Oil Liquid and Liquid Water	Condensing Filter	Extraction - Gravimetry	No	n/a
CAT-A-09	SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> , Cl <sub>2</sub>	Gas Detector Tube	Chemical Length-of-Column	No	n/a
CAT-A-10	Particulates by Size	Laser Particle Counter	Laser Particle Counter	No	W0320914 (PM5)

Trace Analytics, LLC certifies that the instrument(s) associated with the specified method were calibrated in accordance with applicable internal QI procedures. Results relate only to items tested.

Lab Director: Richard A. Smith, Laboratory Director

## SQF REQUIREMENTS & RECOMMENDATIONS

2.5.4.3 – External testing laboratory must be ISO 17025 accredited

# DOCUMENTATION: ISO 17025 ACCREDITED REPORT



<p><b>Reported by:</b> Trace Analytics, LLC 15768 Hamilton Pool Road Austin, Texas 78738 800-247-1024 • 512-263-0000 Fax 512-263-0002 Service@AirCheckLab.com</p> <p><b>Attention:</b> TEMPORARY CONTACT Trace Analytics 115 Oak Lane Burnet, TX 78611</p>				<b>Microbial CFU Analysis Report</b>																																			
				<p><b>Sample &amp; Report Information</b></p> <table border="1"> <tr> <td>Sampled For</td> <td>Trace Analytics</td> <td rowspan="2">Analysis Type</td> <td rowspan="2">Total CFU Count; colony differentiation – bacteria and fungi</td> <td>Report Number</td> <td>99-55555</td> </tr> <tr> <td>Sampled By</td> <td>Not Provided</td> <td>Customer ID</td> <td>8000</td> </tr> <tr> <td>Sampler Type</td> <td>Pinnocchio (KPSII)</td> <td rowspan="2">Incubation Conditions</td> <td rowspan="2">20°C - 25°C, 5 Days 30°C - 35°C, 5 Days</td> <td>Received On</td> <td>3/7/2018</td> </tr> <tr> <td>Flowmeter SN</td> <td>30429</td> <td>Analyzed On</td> <td>3/8/2018-3/18/2018</td> </tr> <tr> <td>Sampling Plan</td> <td>ISO 8573-7:2003</td> <td>Deviations</td> <td>None</td> <td>Date Reported</td> <td>3/8/2018</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td>Pkg Condition at Receipt</td> <td>Acceptable</td> </tr> </table>								Sampled For	Trace Analytics	Analysis Type	Total CFU Count; colony differentiation – bacteria and fungi	Report Number	99-55555	Sampled By	Not Provided	Customer ID	8000	Sampler Type	Pinnocchio (KPSII)	Incubation Conditions	20°C - 25°C, 5 Days 30°C - 35°C, 5 Days	Received On	3/7/2018	Flowmeter SN	30429	Analyzed On	3/8/2018-3/18/2018	Sampling Plan	ISO 8573-7:2003	Deviations	None	Date Reported	3/8/2018		
Sampled For	Trace Analytics	Analysis Type	Total CFU Count; colony differentiation – bacteria and fungi	Report Number	99-55555																																		
Sampled By	Not Provided			Customer ID	8000																																		
Sampler Type	Pinnocchio (KPSII)	Incubation Conditions	20°C - 25°C, 5 Days 30°C - 35°C, 5 Days	Received On	3/7/2018																																		
Flowmeter SN	30429			Analyzed On	3/8/2018-3/18/2018																																		
Sampling Plan	ISO 8573-7:2003	Deviations	None	Date Reported	3/8/2018																																		
				Pkg Condition at Receipt	Acceptable																																		
No.	Sample Date	Trace Plate ID	Description	Total Air Vol., L	Colony Differentiation (C)						Note	CFU / Plate (A)	CFU / m <sup>3</sup> (B)																										
					GPC	GPR	Bacterial GNR	TBC (D)	Yeast	Fungal Mold				TFC																									
1	3/2/2018	1-B 111052	Before Control	0	0	0	0	0	0	0	0	0	N/A																										
2	3/2/2018	2-T 111053	Test	1000	0	0	3	3	0	1	1	4	4																										
3	3/2/2018	3-A 111054	After Control	0	0	0	0	0	0	0	0	0	N/A																										
4	3/2/2018	4-S 111055	Sterility	0	0	0	0	0	0	0	0	0	N/A																										

## SQF REQUIREMENTS & RECOMMENDATIONS

2.5.4.3 – External testing laboratory must be ISO 17025 accredited

# DOCUMENTATION: TRAINING CERTIFICATES



## SQF REQUIREMENTS & RECOMMENDATIONS

2.9.1.1 – Training shall be documented for personnel carrying out tasks essential to maintenance of food safety requirements



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COMPRESSED  
AIR

- ISO 17025 ACCREDITED
- ISO 8573-1:2010 TESTING METHODS
- ESTABLISHED IN 1989
- HACCP CERTIFIED TEAM
- AIRCHECK ACADEMY

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# DOWNLOADS & REFERENCES

- [SQF Edition 8, Summary](#)
- [Monitoring Plans](#)
- [Reports Explained](#)
- [Risk Assessment Article](#)
- [Using ISO 8573-1 to Test Compressed Air: Clearing the Confusion](#)
- [Assessing the Impact of Compressed Air Quality on Food Products](#)





CONTACT US FOR MORE

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## Safe Quality Food Standard: 5 Compressed Air Criteria

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