BUREAU VERITAS
Oil & Petrochemicals

HVAC Refrigerant Analysis

Lubricant Analysis to Protect Cooling and Refrigerant Systems
HVAC Refrigerant Analysis

To protect cooling and refrigerant systems from contamination and failure, fluid properties within compressors need to be maintained within extremely close tolerances.

The presence of a few parts per million (ppm) of a contaminant or the application of the wrong refrigerant could spell the difference between safe, reliable operation and catastrophic failure.

Bureau Veritas’ HVAC refrigerant analysis program can give you the security of knowing that the condition of your equipment is within safe operating ranges and verifies that lubrication is taking place as specified, allowing effective maintenance scheduling.

Bureau Veritas laboratories house the latest automated and multi-position analytical equipment. Our methods of analysis are in accordance with the Air Conditioning & Refrigeration Institute (ARI) Standard 70095 and UL 1995 /CSA C22.2 No. 236. A full range of laboratory analyses are available for a fraction of the costs of replacement, major repair, or downtime.

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Customer Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 years of technical excellence in the Oil &amp; Petrochemicals market</td>
<td>Your product expert for lubricants and coolants</td>
</tr>
<tr>
<td>Global Lube Oil Analysis Management System (LOAMS™) OCM Platform</td>
<td>Exclusive software that brings clarity and meaning to complex laboratory results and maintenance recommendations that improve production and save money</td>
</tr>
<tr>
<td>Extensive global network of offices and laboratories</td>
<td>Ability to test your samples anywhere, any time</td>
</tr>
<tr>
<td>Precise, dependable and prompt reporting</td>
<td>Accurate results, the first time, every time</td>
</tr>
<tr>
<td>Independent and impartial testing results</td>
<td>Quality assurance executed to the highest standards, trusted by all parties</td>
</tr>
</tbody>
</table>

refrigerants@bureauveritas.com | www.bureauveritas.com/hvac
Testing & Analysis

Determining the purity of recovered, recycled and reclaimed refrigerants is vital. We can help identify contaminant and wear before they lead to a host of problems including high head pressures, acid formation, capillary restrictions, and oil migration and bearing failure.

Alternative refrigerants can be incompatible with old system components and used refrigerants are more likely to be contaminated. These contaminants can be incompatible with compressor metals, gaskets, seals or other system components, thus reducing the overall energy efficiency of the unit, and increasing the risk of system damage.

We offer 24/7 turnaround service on refrigerant analysis, helping you to lower your maintenance costs and increase the lifetime of your systems.

Key Capabilities

<table>
<thead>
<tr>
<th>Coolants</th>
<th>Refrigerant CFC’s: R11, R12, R113, R114, R115</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Bromides</td>
<td>Refrigerant HCFC’s: R22, R123</td>
</tr>
<tr>
<td>Lubricating Oil</td>
<td>Refrigerant HFC’s: R134a, R404a, R407C, R410a</td>
</tr>
<tr>
<td>Other Gases</td>
<td>Refrigeration Oils</td>
</tr>
</tbody>
</table>

Bureau Veritas also help clients define their strategies, manage risk, monitor quality, improve performance and enhance their return on investment throughout the critical design, construction and transaction phases. Services include:

- Design review
- Environmental assessments
- In-service inspection and verification
- Property condition assessment and monitoring
- Supervision during construction and commissioning
BUREAU VERITAS
Oil & Petrochemicals Global Network

Contact our Global Sales Team using the numbers below:

- **United States**
  - Tel: +1 281 848 5829

- **United Kingdom**
  - Tel: +44 1376 536 800

- **Benelux**
  - Tel: +31 10 472 04 22

- **Singapore**
  - Tel: +65 6866 3019

- **UAE**
  - Tel: +971 4 899 8100

- **Australia**
  - Tel: +61 8 8416 5237

- **South Africa**
  - Tel: +27 21 425 1800

World Leaders in Conformity Assessment Services
in the Fields of Quality, Health, Safety and Environment

1,400 Offices & Laboratories  |  140 Countries  |  66,500 Employees

www.bureauveritas.com