

## Technical Information 2009/20

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A newsletter from **Johnson Controls Denmark ApS, Sabroe Products**

### Warning against R134a imitations

We have discovered that unauthorized refrigerants have been used in replacement of refrigerant R134a. As described in the following the unauthorized refrigerant is very damaging to the compressor and refrigeration plant. It is flammable and constitutes a health hazard.

**We strongly recommend only to use refrigerants from original packaging delivered from acknowledged refrigerant suppliers.**

#### Facts on R134a imitations

- Mixtures of R22/R40 (CH<sub>3</sub>CL, Chloromethane and Methyl chloride)
- Have been observed on the Chinese market since June 2009
- Found in both stationary refrigeration plants and in refrigeration plants in vehicles.

#### How to recognize the R134a copies

- No marking of barrels, no documentation
- Almost impossible to distinguish between the imitated refrigerant's pressures/temperatures and R134a pressures/temperatures
- Opposite to R134a the imitations are flammable and contain chlorine.

#### Risks

- The Chloromethane (R40) constitutes a health hazard (according to EC regulation No 2037 / 2000 on substances that deplete the ozone layer)
- Exposure to air may ignite the mixture or cause it to explode.

#### Plant behaviour

- The refrigerant may react with ester oils
- The compressor may be damaged even after a short operating period
- The imitated refrigerant may create solid substances and badly smelling lubrication oil.

#### How to identify suspicious refrigerant imitations

##### Be aware of

- R134a from the Chinese market supplied by unknown suppliers at strikingly low prices.
- unspecified damage to the compressor or moving parts, e. g. oil sediments
- solid substances or badly smelling ester oil sludge.

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In connection with damage and consequent warranty claims we recommend a gas-chromatographic analysis (e.g. by ILK in Dresden, Germany) of the refrigerant and/or the compressor oil used with R134a. This will prove whether the refrigerant is an imitation or the real R134a.

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