

Honeywell**CERTIFICATE OF ANALYSIS****Honeywell Specialty Chemicals Seelze GmbH**

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Brand: Honeywell Riedel-de Haën™
Product: 32203
Lot No: I331ES
Production date: 27.Nov.2018
Rec. Retest Date: 06.Nov.2022

Diethyl ether, contains BHT as stabilisator, puriss p.a., Reag. ACS, Reag. ISO, Reag. Ph. Eur., >= 99.8 %

| Parameter | Specification | Units | Result | Units |
|-------------------------------------|---------------|-------|---------------|-------|
| appearance (color) | complying | | complying | |
| appearance (form) | complying | | complying | |
| assay (GC) | min. 99.8 | % | 99.8 | % |
| boiling range | 34 - 35 | °C | 34 - 35 | °C |
| density (D 20/4) | 0.713-0.714 | | 0.713 - 0.714 | |
| non-volatile matter | max. 0.001 | % | <0.001 | % |
| water (Karl Fischer) | max. 0.03 | % | 0.02 | % |
| free acid (as CH ₃ COOH) | max. 0.0002 | % | <0.0002 | % |
| titrable acid | max. 0.0002 | meq/g | <0.0002 | meq/g |
| aluminium (Al) | max. 0.50 | ppm | <0.50 | ppm |
| boron (B) | max. 0.02 | ppm | <0.02 | ppm |
| barium (Ba) | max. 0.10 | ppm | <0.10 | ppm |
| calcium (Ca) | max. 0.50 | ppm | <0.50 | ppm |
| cadmium (Cd) | max. 0.05 | ppm | <0.05 | ppm |
| cobalt (Co) | max. 0.02 | ppm | <0.02 | ppm |
| chromium (Cr) | max. 0.02 | ppm | <0.02 | ppm |
| copper (Cu) | max. 0.02 | ppm | <0.02 | ppm |
| iron (Fe) | max. 0.05 | ppm | <0.05 | ppm |
| magnesium (Mg) | max. 0.10 | ppm | <0.10 | ppm |
| manganese (Mn) | max. 0.02 | ppm | <0.02 | ppm |
| nickel (Ni) | max. 0.02 | ppm | <0.02 | ppm |
| lead (Pb) | max. 0.05 | ppm | <0.05 | ppm |
| tin (Sn) | max. 0.10 | ppm | <0.10 | ppm |
| zinc (Zn) | max. 0.05 | ppm | <0.05 | ppm |
| acetone (GC) | max. 0.005 | % | <0.005 | % |
| aldehydes | complying | | complying | |

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|---|---------------|-------|-----------|-------|
| carbonyl compounds (as CO) | max. 0.001 | % | <0.001 | % |
| carbonyl compounds (as HCHO) | max. 0.001 | % | <0.001 | % |
| ethanol (GC) | max. 0.02 | % | <0.02 | % |
| methanol (GC) | max. 0.02 | % | <0.02 | % |
| peroxides (as H ₂ O ₂) | max. 0.3 | ppm | <0.3 | ppm |
| reaction against H ₂ SO ₄ | complying | | complying | |
| APHA | max. 10 | | <10 | |
| assay BHT (GC) | 5-8 | ppm | 5 - 8 | ppm |

QC Release Date: 08.Jan.2019

The minimum shelf life is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks/ packages.

We herewith confirm that the delivery is effected according to the technical delivery conditions agreed.

Particular properties of the products or the suitability for a particular area of application are not assured.

We guarantee a proper quality within our General Conditions of Sales.

Honeywell
Quality Management

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