|  |  |
| --- | --- |
| **Verzeichnis der****Untersuchungsverfahren****nach Fachmodul Abfall 2023****(Klärschlamm nach AbfKlärV)** | Nr. der Standorte |
| Standort 1:       |
| Standort 2:       |
| Standort 3:       |
| Standort 4:       |
| Standort 5:       |
|  | **Teilbereiche/**Parameter | **Grundlage/**Verfahren | **1** | **2** | **3** | **4** | **5** |
|  |  | **AbfKlärV** |  |
| **1.1** | **Probenahme und Probenvorbereitung** | **§ 32 Abs. 3 und 4 AbfKlärV** |  |
| **a)** | **Probenahme** | **DIN EN ISO 5667-13 08.2011) und DIN 19698-1 (05.2014)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **b)** | **Probenvorbereitung** | **DIN 197471 Kap. 7 und 8 (07.2009)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  |  |  |  |  |  |  |
| **1.2** | **Schwermetalle und Chrom VI \*** | **§ 5 Abs. 1 Nr. 1 und 8 AbfKlärV** |  |
|  | Königswasseraufschluss | **DIN EN 13346 Verfahren A (04.2001)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16174 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN ISO 54321 (04.2021) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Arsen, Blei, Cadmium, Chrom, Kupfer, Nickel, Zink, Eisen (aus Königswasser-aufschluss) | **DIN EN 16171 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16170 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN ISO 11047 (05.2003)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 17294-2 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 11885 (09.2009)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **CEN/TS 16172; DIN SPEC 91258 (04.2013)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN ISO 22036 (06.2009) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Thallium (aus Königswasseraufschluss) | **DIN EN 16171 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16170 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN ISO 11047 (05.2003)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 17294-2 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN 38406-26 (07.1997)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 11885 (09.2009)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **CEN/TS 16172; DIN SPEC 91258 (04.2013)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN ISO 22036 (06.2009) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Quecksilber (aus Königswasseraufschluss) | **DIN EN 16175-1 (12.2016)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16175-2 (12.2016)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16171 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 17852 (04.2008)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN ISO 12846 (08.2012) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Chrom VI | **DIN EN 16318 (07.2016)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |

\*) Abweichend von Teil 3 Nr. 3.1.2 des Fachmoduls Abfall kann der Kompetenznachweis für den Teilbereich 1.2 auch ohne

Chrom VI erbracht werden.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 1 Nach DIN 19747 unterscheidet man vorbereitende Schritte an der Feldprobe (Kapitel 5), die Probenvorbehandlung (Kapitel 6 Feldprobe zur Laborprobe), die Probenvorbereitung (Kapitel 7 – Laborprobe zur Prüfprobe) und die Probenaufbereitung (Kapitel 8 – Prüfprobe zur Messprobe).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Teil-bereich** |  |  | **1** | **2** | **3** | **4** | **5** |
| **1.3** | **Adsorbierte, organisch gebundene Halogene** | **§ 5 Abs. 1 Nr. 2 AbfKlärV** |  |
|  | AOX (aus Trockenrückstand) | **DIN 38414-18 (11.1989)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16166 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  | DIN EN 16166 (04.2022) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |

|  |  |  |  |
| --- | --- | --- | --- |
| **1.4** | **Physikalische Parameter, Nährstoffe** | **§ 3a Abs. 2-3 sowie****§ 5 Abs. 1 Nrn. 3 - 9 AbfKlärV** |  |
|  | Trockenrückstand | **DIN EN 15934 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 12880 (02.2001) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Organische Substanz als Glühverlust(vom Trockenrückstand) | **DIN EN 15935 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 15169 (05.2007) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  | DIN EN 15935 (10.2021) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | pH-Wert | **DIN EN 15933 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN ISO 10390 (08.2022) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | basisch wirksame Stoffe als CaO | **Methodenhandbuch des VDLUFA Band II.2, Methode 4.5.1** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Ammoniumstickstoff (NH4-N) | **DIN 38406-5 (10.83)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN ISO 14255 (11.1998) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN ISO 11732 (05.2005) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 14671 (09.2006) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Gesamt-Stickstoff (Nges.) | **DIN EN 16169 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 13342 (01.2001)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 13654-1 (01.2002) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Königswasseraufschluss | **DIN EN 16174 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 13346 Verfahren A (04.2001)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN ISO 54321 (04.2021) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | Phosphor (P) (aus Königswasseraufschluss)(Umrechnung: Phosphor (P) \* 2,291 für Phosphorpentoxid (P2O5)) | **DIN EN ISO 11885 (09.2009)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 6878 (09.2004)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN ISO 17294-2 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN EN 16171 (01.2017)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 16170 (01.2017) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  |  |  |  |  |  |  |
|  | **Persistente organische Schadstoffe:** | **§ 5 Abs. 2 Nrn. 1 – 4 AbfKlärV** |  |
| **1.5** | **Polychlorierte Biphenyle (PCB)** | **DIN EN 16167 (11.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN 38414-20 (01.1996)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 17322 (03.2021) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  |  |  |  |  |  |  |
| **1.6** | **Polychlorierte Dibenzodioxine und –furane (PCDD/PCDF) sowie dioxinähnliche polychlorierte Biphenyle (dl-PCB)** | **DIN CEN/TS 16190;DIN SPEC 91267 (05.2012)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 16190 (10.2019) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1.7** | **Benzo(a)pyren (B(a)P)** | **DIN EN 15527 (09.2008)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN 38414-23 (02.2002)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| **DIN CEN/TS 16181;****DIN SPEC 91243 (12.2013)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
| DIN EN 17503 (08.2022) | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1.8** | **Per- und polyfluorierte Alkylverbindungen (PFAS) mit den Einzelsubstanzen Perfluoroctansäure und Perfluoroctansulfonsäure (PFOA/PFOS)** | **DIN 38414-14 (08.2011)** | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |