

DIN EN 1409:2023-12 (E)

Chemicals used for water treatment intended for human consumption - Polyamines

| Contents | | Page |
|-------------------------|--|-------------|
| European foreword | | 4 |
| Introduction | | 5 |
| 1 | Scope | 6 |
| 2 | Normative references | 6 |
| 3 | Terms and definitions | 6 |
| 4 | Description | 6 |
| 4.1 | Identification | 6 |
| 4.1.1 | Chemical name(s) | 6 |
| 4.1.2 | Synonym(s) or common name(s) | 6 |
| 4.1.3 | Relative molecular mass | 6 |
| 4.1.4 | Empirical formula | 6 |
| 4.1.5 | Chemical formula | 7 |
| 4.1.6 | CAS Registry Numbers | 7 |
| 4.1.7 | EINECS reference | 7 |
| 4.2 | Commercial form | 8 |
| 5 | Physical properties | 8 |
| 5.1 | Appearance | 8 |
| 5.2 | Density | 8 |
| 5.3 | Solubility | 8 |
| 5.4 | Vapour pressure | 8 |
| 5.5 | Boiling point at 100 kPa | 8 |
| 5.6 | Freezing point | 8 |
| 5.7 | Specific heat | 8 |
| 5.8 | Viscosity dynamic | 8 |
| 5.9 | Critical temperature | 8 |
| 5.10 | Critical pressure | 8 |
| 5.11 | Physical hardness | 8 |
| 6 | Chemical properties | 9 |
| 6.1 | General | 9 |
| 6.2 | Purity criteria | 9 |
| 6.2.1 | General | 9 |
| 6.2.2 | Impurities and main by-products | 9 |
| 6.3 | Composition of commercial product | 9 |
| 6.4 | Chemical parameters | 10 |
| 7 | Test methods | 10 |
| 7.1 | Sampling | 10 |
| 7.1.1 | General | 10 |
| 7.1.2 | Sampling from drums and bottles | 10 |
| 7.2 | Analyses | 11 |
| 7.2.1 | General | 11 |
| 7.2.2 | Main product | 11 |
| 7.2.3 | Impurities | 13 |
| 8 | Labelling - transportation - storage | 20 |

| | | |
|---|---|----|
| 8.1 | Means of delivery | 20 |
| 8.2 | Labelling according to the EU Legislation | 20 |
| 8.3 | Transportation regulations and labelling | 21 |
| 8.4 | Marking | 21 |
| 8.5 | Storage | 21 |
| 8.5.1 | Long term stability | 21 |
| 8.5.2 | Storage incompatibilities | 21 |
| Annex A (informative) General information on polyamines | | 22 |
| A.1 | Origin | 22 |
| A.1.1 | Raw materials | 22 |
| A.1.2 | Manufacturing process | 22 |
| A.2 | Use | 22 |
| A.2.1 | Function | 22 |
| A.2.2 | Form in which it is used | 22 |
| A.2.3 | Treatment dose | 22 |
| A.2.4 | Means of application | 22 |
| A.2.5 | Secondary effects | 22 |
| A.2.6 | Removal of excess product | 22 |
| A.3 | Rules for safe handling and use | 23 |
| A.4 | Emergency procedures | 23 |
| A.4.1 | First aid | 23 |
| A.4.2 | Spillage | 23 |
| A.4.3 | Fire | 23 |
| Bibliography | | 24 |