**ALUMINIUM**

**REACH**

##### CONSORTIUM

**Joint initiative of European Aluminium**

**and IAI** (International Aluminium Institute)

**Substance Identity Profile (SIP) and analytical methods.**

**Identification:**

Substance name: **Aluminium**

IUPAC name: Aluminium

Molecular formula: Al

Atomic weight: 26,9815

CAS No.: 7429-90-5

EINECS No.: 231-072-3

**Substance definition:**

The substance to be registered is Aluminium as a mono-constituent substance.

**Composition:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameter** | **CAS No.** | **EC No.** | **Name** | **Concentration****Range** | **Concentration****Typical** |
| Constituent | 7429-90-5 | 231-072-3 | Aluminium | > 95% | 99,7 |
|  |  |  |  |  |  |
| Impurities | 7439-89-6 | 231-096-4 | Iron | > 0,02 to < 3% | 0,2 |
|  | 7440-21-3 | 231-130-8 | Silicon | > 0,02 to < 2% | 0,1 |

**Technological process:**

Aluminium metal is produced from Aluminium oxide by electrolysis in carbon lined cells with carbon anodes. Aluminium oxide is dissolved in molten cryolite at 960oC and direct current applied to the cell. The basic reaction is:

2 Al2O3 + 3 C = 4 Al + 3 CO2

The liquid aluminium is collected from the bottom of the cell and cast into desired shapes in casting pits cooled by water. The melting temperature for aluminium is 660 oC

**Classification & Labelling:**

Aluminium metal is not classified under Regulation (EC) 1272/2008.

**Recommendation for analytical methods for substance identification and determination of composition/purity:**

- Identify the substance by ICP (Inductively Coupled Plasma)

- Determine composition by OES (Optical Emission Spectroscopy)

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