

## **TECHNICAL SPECIFICATION FOR PRODUCT ALUMINIUM SULPHATE**

### **1. GENERALITIES**

**1.1. COMMERCIAL NAME:** ALUMINIUM SULPHATE

**1.2. CHEMICAL FORMULA:**  $Al_2(SO_4)_3 \cdot 14 H_2O$

**1.3. COMMERCIAL TYPE:** flakes, powder, granules, liquid

**1.3. FIELD OF USAGE:** fresh water treatment, waste water treatment, manufacture of pulp and paper, textile industry,

**1.4. APPEARANCE:** Aluminium sulphate is easy soluble, inorganic coagulant. The solid product has a white- yellowish colour and liquid product is a clear- transparent liquid.

### **2. TECHNICAL CONDITIONS FOR QUALITY**

#### **2.1. SPECIFICATION**

<b>Product specification</b>	<b>Flakes 10-50 mm</b>	<b>Powder 0- 8 mm</b>	<b>Liquid</b>	<b>Method of analysis</b>
Color	white	white	clear-transparent liquid	Visual
Al, g / kg of solid product	≥72	≥72	≥25	EN 1302:2000
Al <sub>2</sub> O <sub>3</sub> , %	17.0± 0.2	17.0± 0.2	6.5 ± 0.1	EN 1302:2000
Fe, % max	0.015	0.015	0.007	EN 1302:2000
Insoluble, % max	0.2	0.2	0.1	EN 1302:2000
Free acidity, % max	0.2	0.2	0.1	EN 1302:2000
Bulk density, kg/ m <sup>3</sup>	950 ± 50	950 ± 50	1.26 ± 2	EN 1302:2000
<b>Heavy metals</b>	<b>Mg/ kg Al max.</b>	<b>Method of analysis</b>	<b>Mg/ kg Al max.</b>	<b>Method of analysis</b>
Arsenic (As)	14	EN 1302:2000	20	EN 1302:2000
Cadmium (Cd)	3	EN 1302:2000	40	EN 1302:2000
Chromium (Cr)	30	EN 1302:2000	20	EN 1302:2000
Mercury (Hg)	4	EN 1302:2000	20	EN 1302:2000

**2.2. QUALITY:** Aluminium sulphate is produced according to the European standard EN 878:2004 and is certified by Bulgarian Ministry of Health to be used for treatment of potable water for human consumption.

### **3. PACKING**

Product is packed in:

- solid product is packed in big bags of 1 Mt, bags of 25 (6ply) and 50 kg on pallets of 1 Mt or bulk trucks.
- liquid product is packed in railway steel tanks protected against corrosion, road tanker, anticorrosive protected, polypropylene vessel
- other packing that provides quantitative and qualitative integrity of product

## 4. MARKING, HANDLING, STORAGE, TRANSPORT, DOCUMENTS

**4.1. Marking** of packages is made by labelling as per European regulation ) 1272/ 2008 Annex VI, at visible place with following specifications:

- name of manufacturing company
- product name
- lot number (no. of packing)
- net and gross mass
- signal word
- pictogram: pictogram code, graphic sign of hazard pictogram
- hazard statements (H...)
- precautionary statements (P...)
- EC No corresponds with the EINECS inventory and CAS number
- validity term

**4.2. Product handling** requests cautions applicable for a hygroscopic and corrosive product. **Protective equipment used** is: protective goggles; rubber gloves; cotton overall, boots acid resistant. Avoid product handling, storage and transport together with: strong acids and organic halogens compounds

**4.3. Storing:** solid product is stable and need dry places for storing. Liquid product is kept in steel tanks, anticorrosive protected, tightly closed; the storage area must be proper ventilated conditions, protected against humidity, separated from incompatible substances.

**4.4. Transport of product** is made by anticorrosive protected railway tank/ road tanker. According to RID/ADR last edition, liquid product is included in risk class 8/III, identification number UN: 3264.

**4.5.** Each lot of product will be accompanied by a **document for quality certification** elaborated according to legal provisions in force.

## 5. Validity term

In conditions of storage and transport provided at item 4, validity term for product is **3 years** from manufacturing date.

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