

## Recycled Gypsum

### Eurogypsum Quality Criteria (2024)

This document sets up a number of parameters which Eurogypsum would **recommend** as to ensure the end-of-waste status to reprocessed gypsum from waste plasterboard and other gypsum-based products, in order for it to be processed into new plasterboard or other gypsum-based products. The document provides a specification that can be adopted by reprocessors for producing defined grades of reprocessed gypsum from waste plasterboard or other gypsum-based products, such that potential customers will be assured that they are procuring a material of consistent and verifiable quality.

**Health, safety and environmental parameters** (*Table 1*) have been determined on the basis of a comprehensive human health assessment carried out within the framework of the EU chemicals legislation REACH, as well as the good practices collected using the “Specification for the production of reprocessed gypsum from waste plasterboard<sup>1</sup>” in the United Kingdom.

Concerning **technical parameters** (*Table 2*), Eurogypsum considers that the recycled gypsum material meeting the recommended values should be regarded as acceptable for use as a secondary raw material. However, **each company or production site remains free to set up different quality requirements** in light of the necessities of their respective production processes.

---

<sup>1</sup> [The British Standards Institution, PAS 109: 2013, Specification for the production of reprocessed gypsum from waste plasterboard, July 2013.](#)

**Table 1: Health, Safety and Environment Parameters<sup>2</sup>**

HSE* Parameter	Quality Criteria	Method used
Trace elements	Non-toxic	According to national legal requirements or by internal assessment
Radioactivity Index I	< 0,5	Directive 2013/59/Euratom
Asbestos	None <sup>3</sup>	ISO method (ISO 22262-2 (2014)) <sup>4</sup> and/or adequate national method required
Sulphur (primary)	Odourless/neutral	VGB <sup>5</sup> , part 1, 8.9
Man Made Mineral Fibres (below 6µm in diameter) <sup>6</sup>	0.1 w/w % <sup>7</sup>	ISO method (ISO 22262-2 (2014)) and/or adequate national method required

\* HSE: Health, Safety, Environment

Please note that it is also possible to use other analysis methods for the determination of the quality parameters in the product recycled gypsum, provided they give results equivalent to those obtained with the reference methods.

<sup>2</sup> Values updated by Eurogypsum, based on the following study on the characteristics of natural and synthetic (FGD) gypsum: BECKERT J., 1990. Comparison of natural gypsum and FGD gypsum: studies for a comparative assessment of the health impact of natural gypsum and FGD gypsum from coal-fired power plants with a view to their use in the manufacture of building materials. *VGB technical scientific reports "Thermal power plants", 707.*

<sup>3</sup> Please note that this value (*none*) is defined at national level, so refer to specific national regulations for further details.

<sup>4</sup> ISO 22262-2:2014, Air quality – Bulk materials – Part 2: Quantitative determination of asbestos by gravimetric and microscopical methods.

<sup>5</sup> [VGB PowerTech e.V., Instruction Sheet. Analysis of FGD gypsum, VGB-M 701, second edition 2008.](#)

<sup>6</sup> Mineral wool as defined in the CLP Regulation (EC) No 1272/2008, Annex 6 Table 3.1 with index No. 650-016-00-2 with diameter <6µm according to Note R.

<sup>7</sup> 0,1 w/w% according to CLP Regulation (EC) No 1272/2008, Table 3.6.2 and Note 1.

**Table 2: Technical Parameters**

Technical Parameter	Expressed as	Quality Criteria	Method used
Particle size <sup>8</sup>		≤ 50 mm	VGB <sup>5</sup> , part 2, A7
Free moisture <sup>9</sup>		≤ 10 %	VGB <sup>5</sup> , part 1, chapter 1
Purity of gypsum <sup>10</sup>	CaSO <sub>4</sub> , 2 H <sub>2</sub> O	≥ 80%	VGB <sup>5</sup> , part 1, chapter 2
Total organic content (TOC) <sup>11</sup>		≤ 2.0 %	VGB <sup>5</sup> , part 1, chapter 8.10 / EN 15936:2022
Magnesium salts, water soluble <sup>12</sup>	MgO	< 0.1 %	VGB <sup>5</sup> , part 1, chapter 8.1
Sodium salts, water soluble <sup>13</sup>	Na <sub>2</sub> O	< 0.04 %	VGB <sup>5</sup> , part 1, chapter 8.2
Potassium salts, water soluble <sup>14</sup>	K <sub>2</sub> O	< 0.06 %	VGB <sup>5</sup> , part 1, chapter 8.3
Chloride <sup>15</sup>	Cl	< 0.01 %	VGB <sup>5</sup> , part 1, chapter 8.8
pH		5 – 9	DIN EN ISO 787-9: 2019-06
Visible physical contaminants: Total glass, metal, plastic and any other non-stone fragments (excluding paper)		None	BSI <sup>1</sup> , Annex E

Assessment methods and minimum sampling are fixed in individual contracts signed with recyclers. The treatment facility should have appropriate quality management systems in place.

\*\*\*\*\*

**Eurogypsum** is a European federation of national associations of producers of gypsum products (i.e. plaster and plasterboard). It is one of the few fully integrated industries (from cradle to cradle) within the construction products field. The companies which mine gypsum also process it and manufacture the value-added products and systems used extensively in construction and other industries. With a turnover of EUR 7 billion, the European gypsum and anhydrite industry operates some 111 factories and 132 quarries and generates employment directly to 16,000 persons and indirectly for 300,000 persons. The gypsum industry provides jobs to 1,100,000 plasterers and plasterboard installers. It trains around 25,000 persons per year across Europe.

**Contacts:**

Tristan Suffys, Secretary General - [t.suffys@eurogypsum.org](mailto:t.suffys@eurogypsum.org)

Xavier Meyer, Leader of Eurogypsum's Circular Gypsum Working Group – [xavier.meyer@saint-gobain.com](mailto:xavier.meyer@saint-gobain.com)

<sup>8</sup> An adapted particle size is, most of the time, a compromise among the equipment, the devices, and the process available at the user facilities.

<sup>9</sup> Please note that this is a recommendation to minimise drying, deviations can be accepted in specific contractual agreements.

<sup>10</sup> This value is purely indicative, as strong differences can be encountered in natural gypsum depending on the local gypsum rock purity, contrary to the level of purity achievable via flue gas desulphurisation.

<sup>11</sup> Please note that the residual paper is only one component of TOC.

<sup>12</sup> Special gypsum products might require lower concentration of soluble salts.

<sup>13</sup> idem

<sup>14</sup> idem

<sup>15</sup> Deviations can be accepted in specific contractual agreements.