

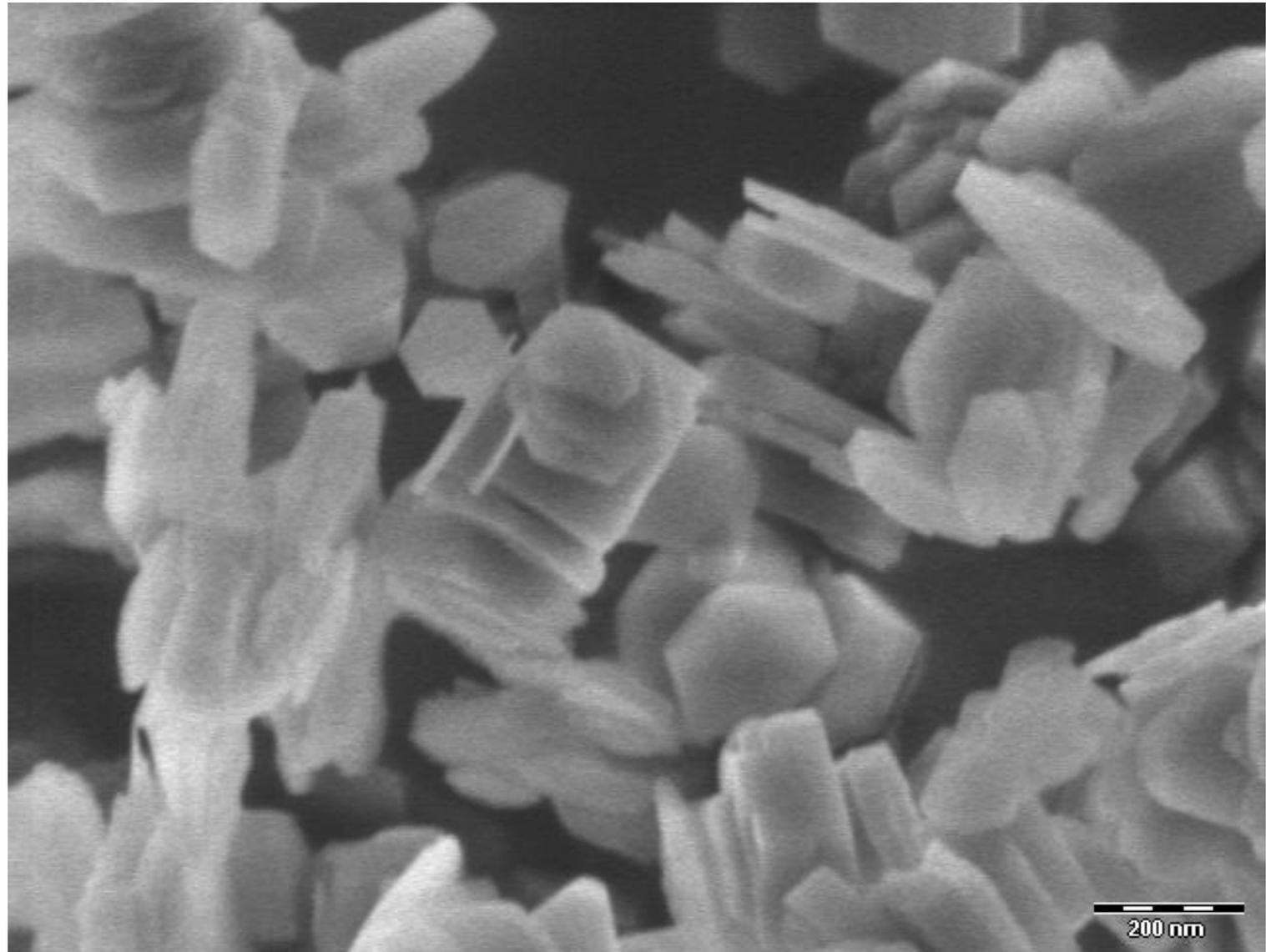
# **METALÚRGIA EXTRACTIVA DEL ALUMINIO**

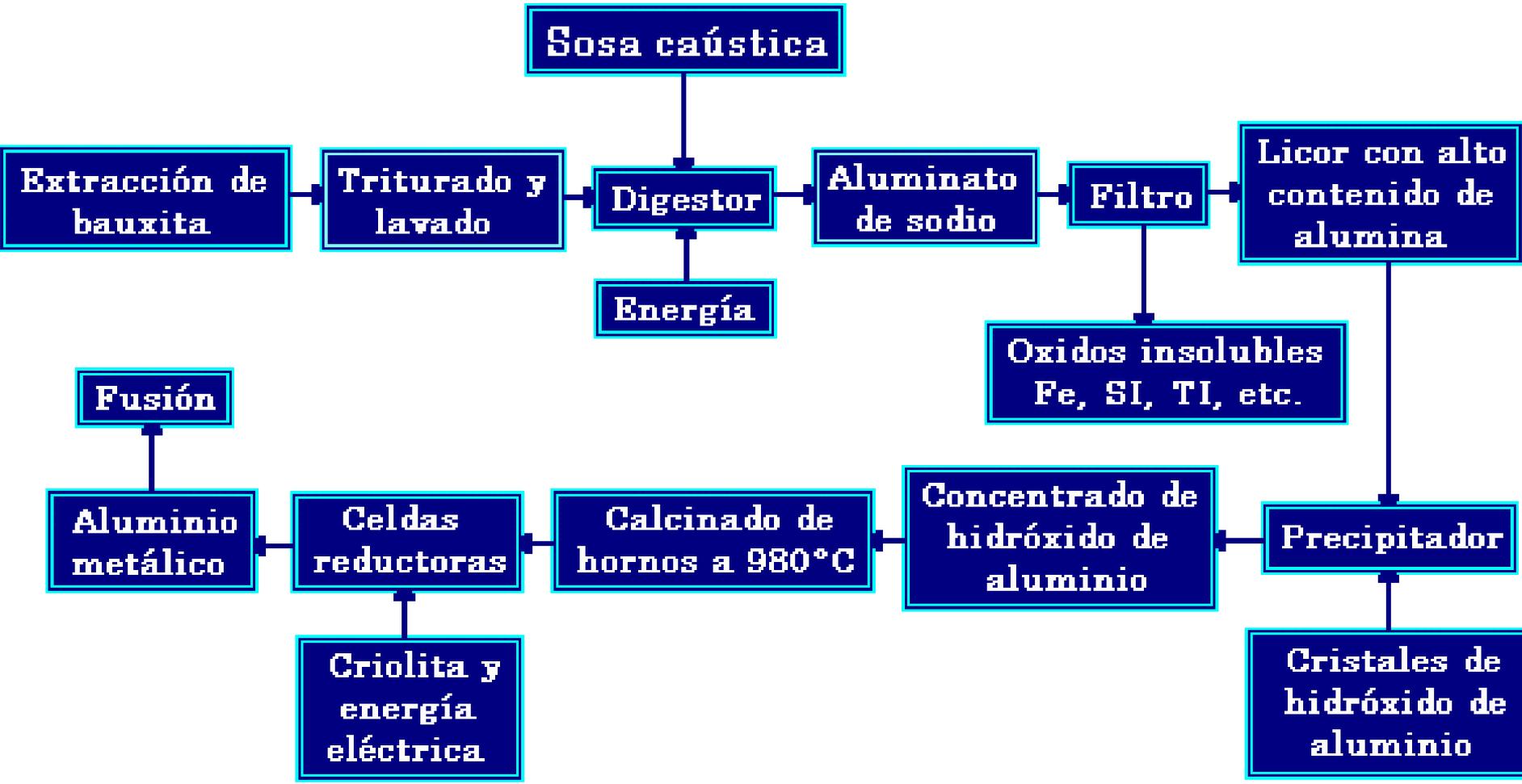
Julio Alberto Aguilar Schafer

# Minerales del Aluminio

<b><i>Nombre</i></b>	<b><i>Fórmula</i></b>	<b><i>Porcentaje del alumi nio</i></b>
<b>Bohemita</b>	<b><math>\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}</math></b>	<b>85.1</b>
<b>Díaspora</b>	<b><math>\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}</math></b>	<b>85.1</b>
<b>Gibbsita</b>	<b><math>\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}</math></b>	<b>65.4</b>

# Vista al microscopio de la gibbsita





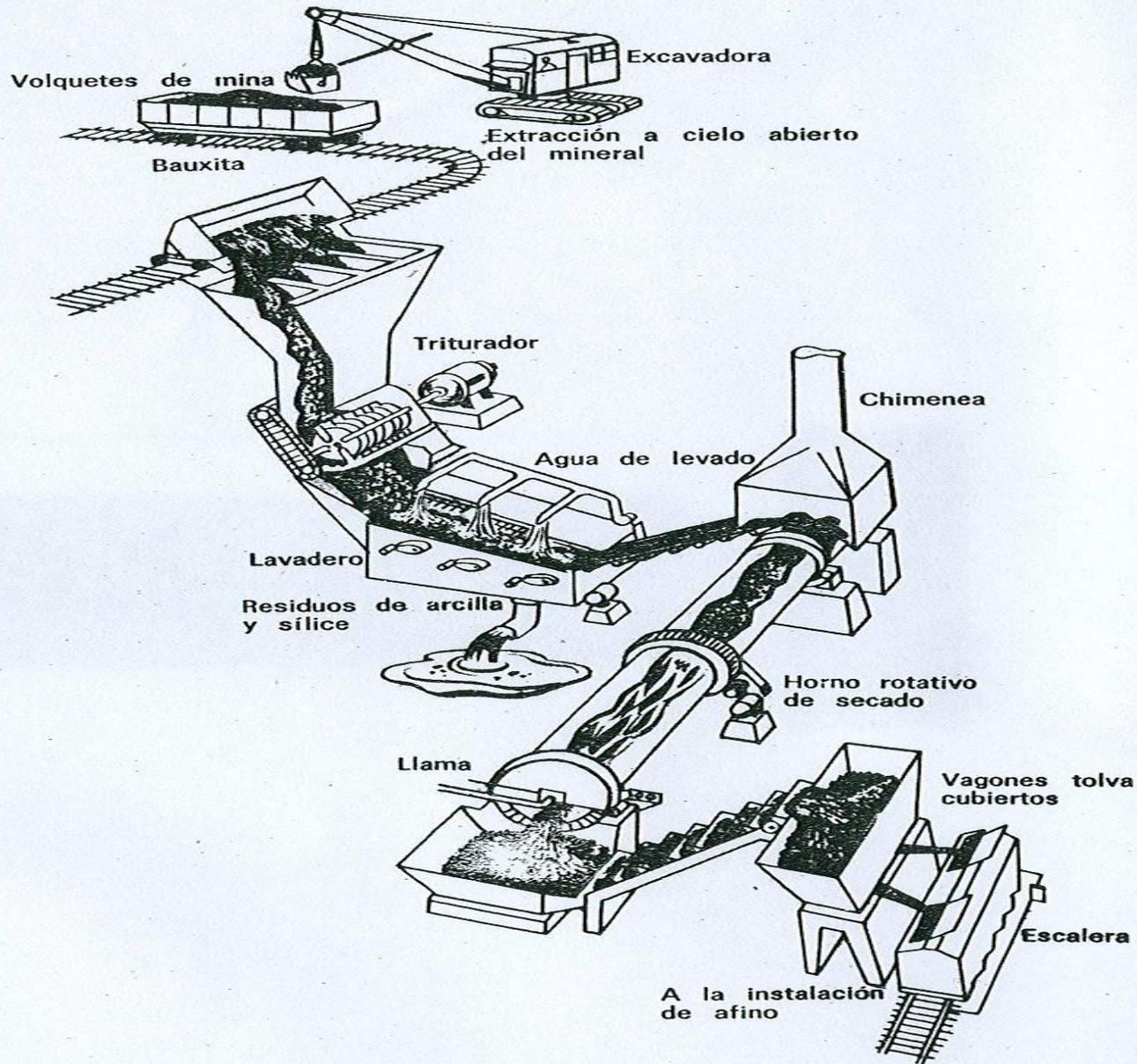


Fig. 17.15 Esquema de la extracción y concentración del mineral de aluminio. (Aluminum Company of America.)

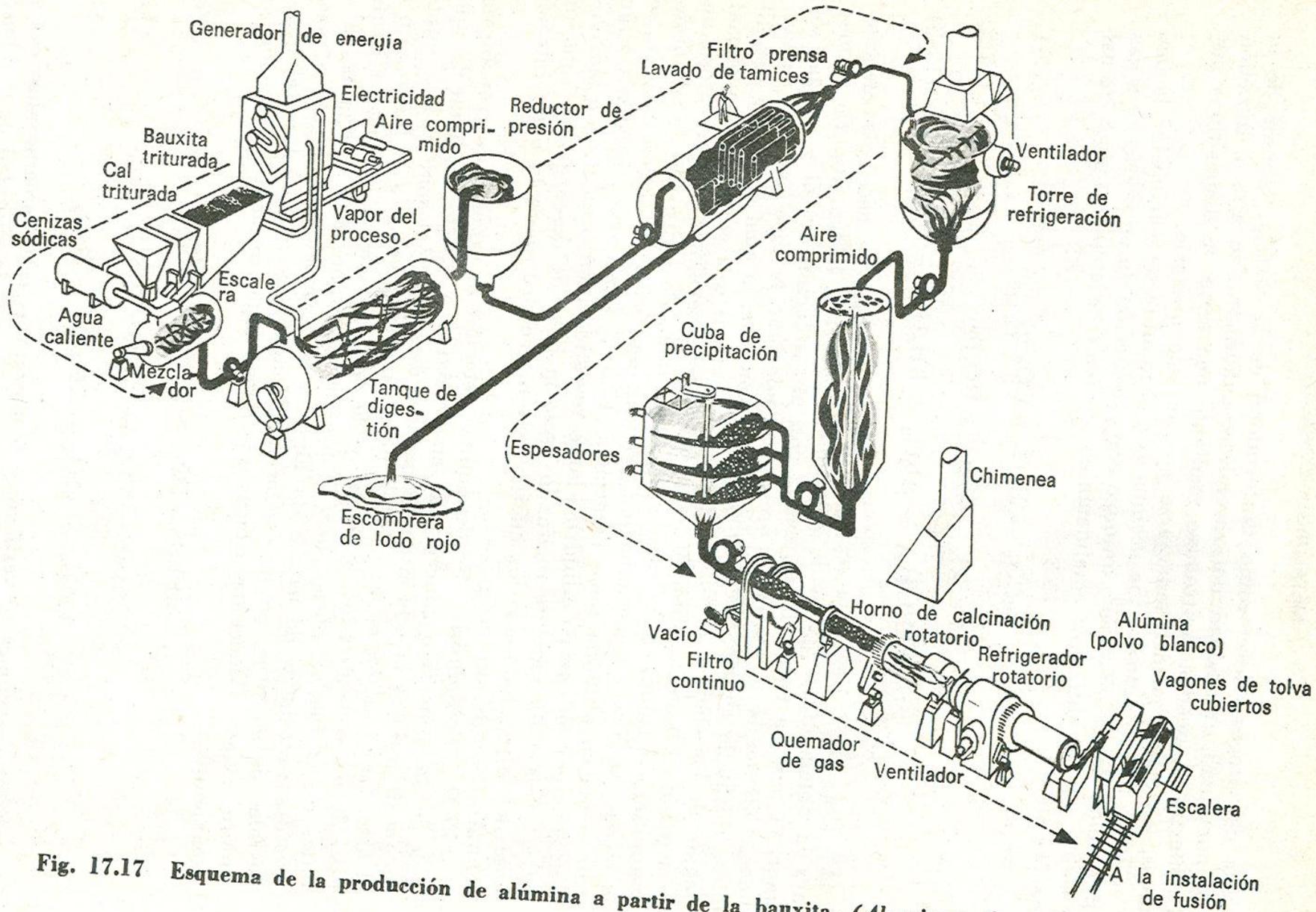
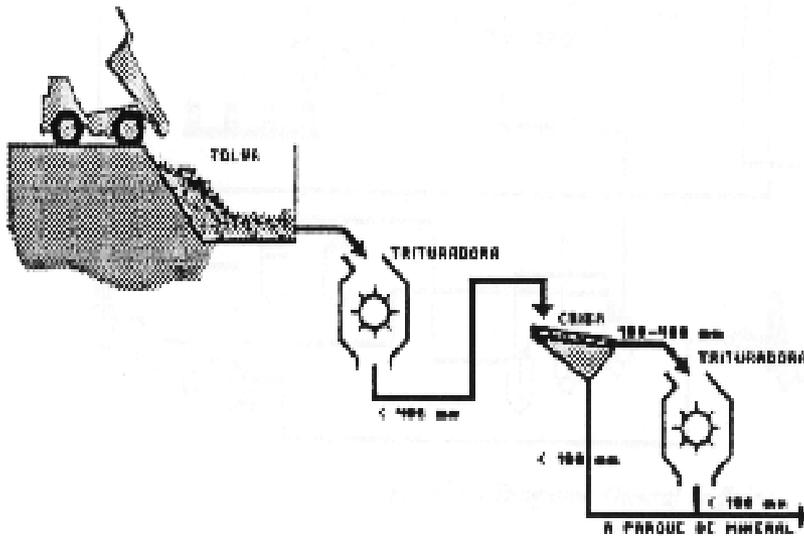


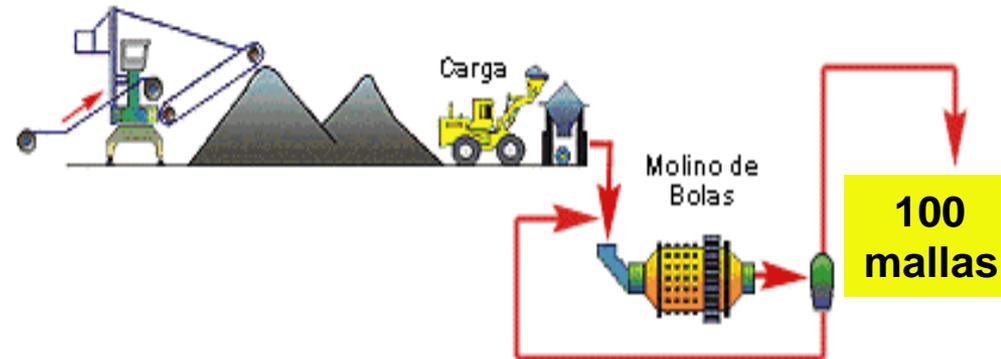
Fig. 17.17 Esquema de la producción de alúmina a partir de la bauxita. (Aluminum Company of America.)

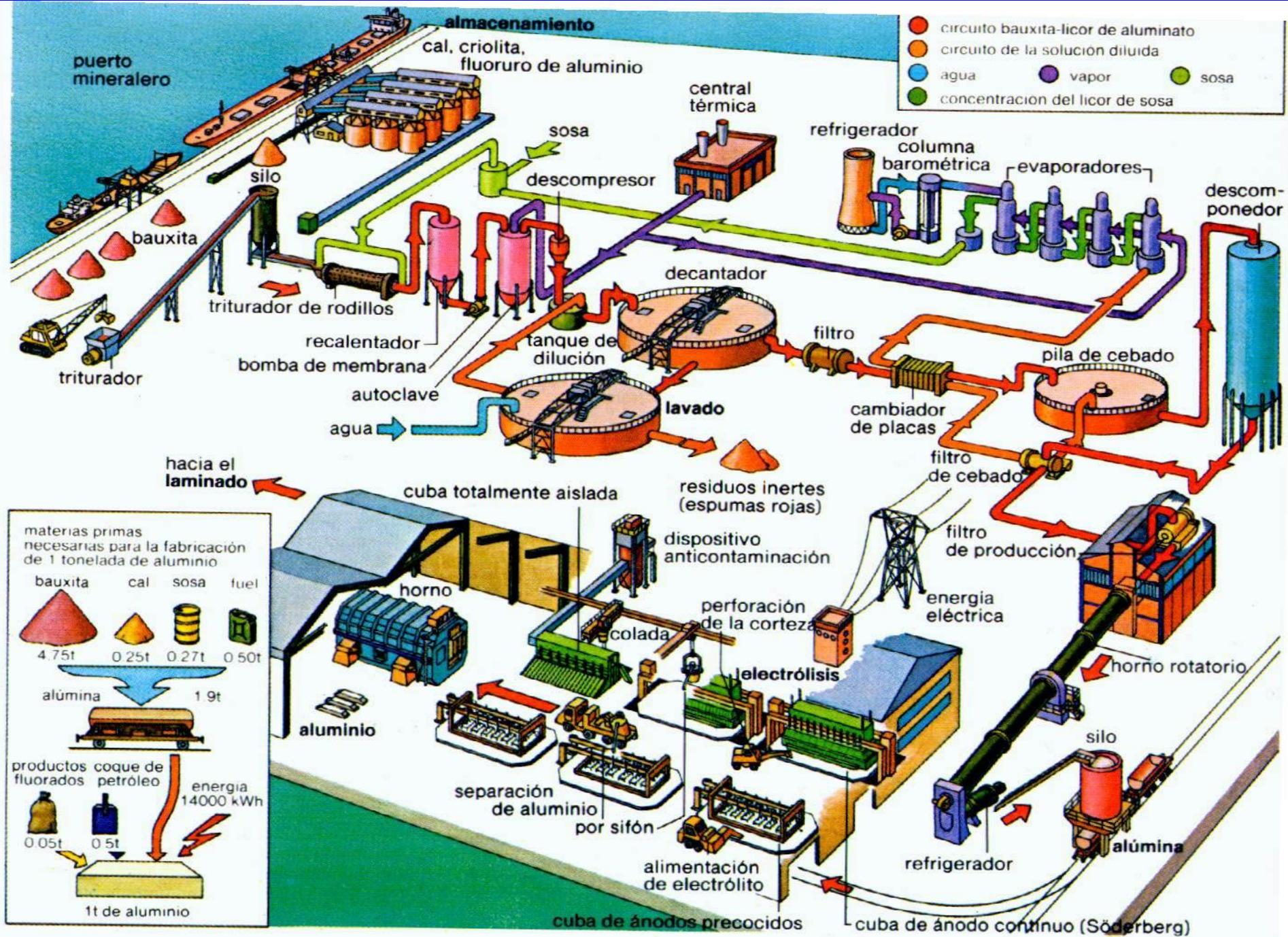
# Proceso de preparación de la bauxita trituration y molienda



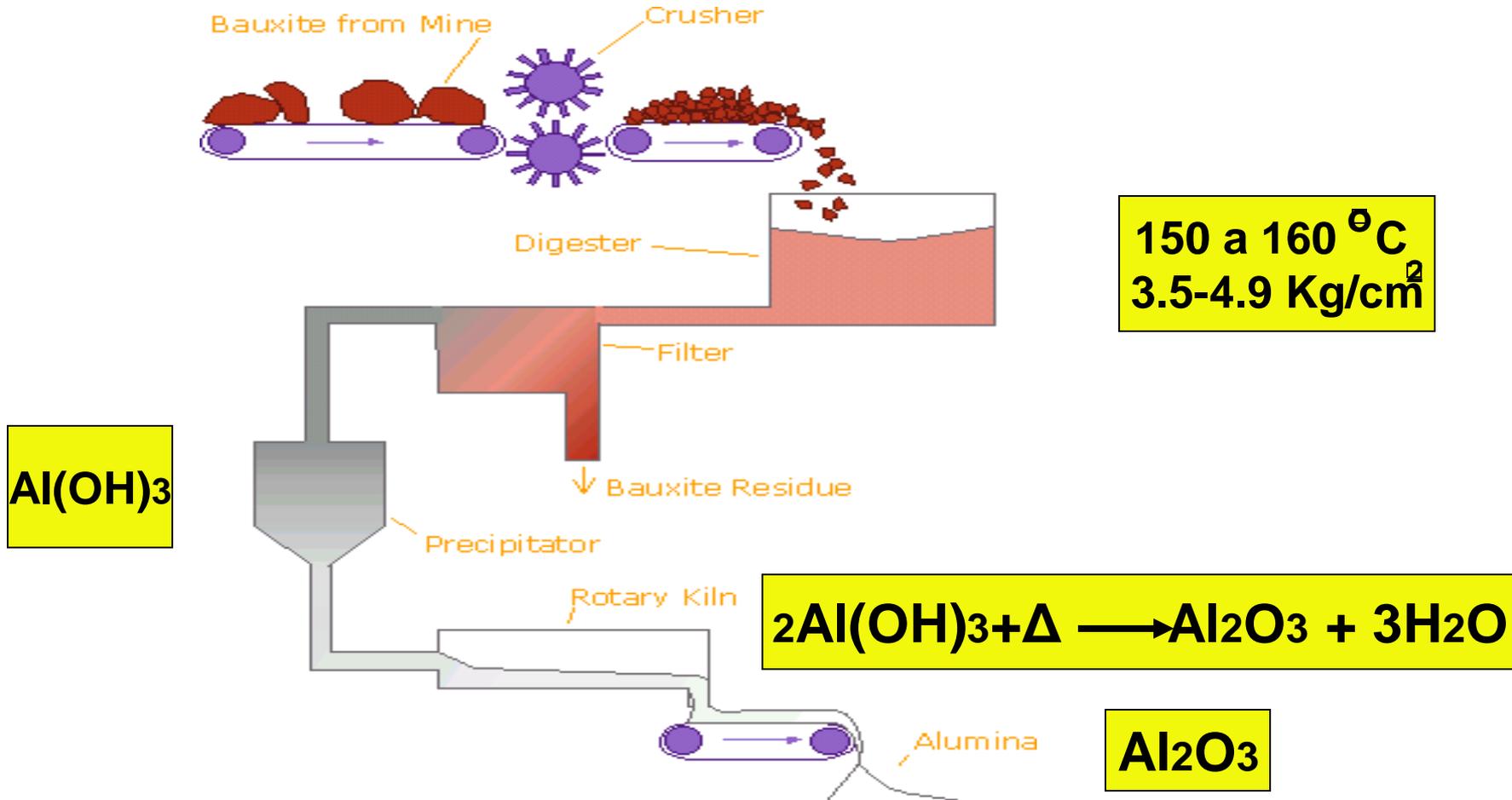
## Bauxita cruda:

$\text{Fe}_2\text{O}_3$	10-30%
$\text{SiO}_2$	4-18%
$\text{TiO}$	2-5%
$\text{Al}_2\text{O}_3$	resto



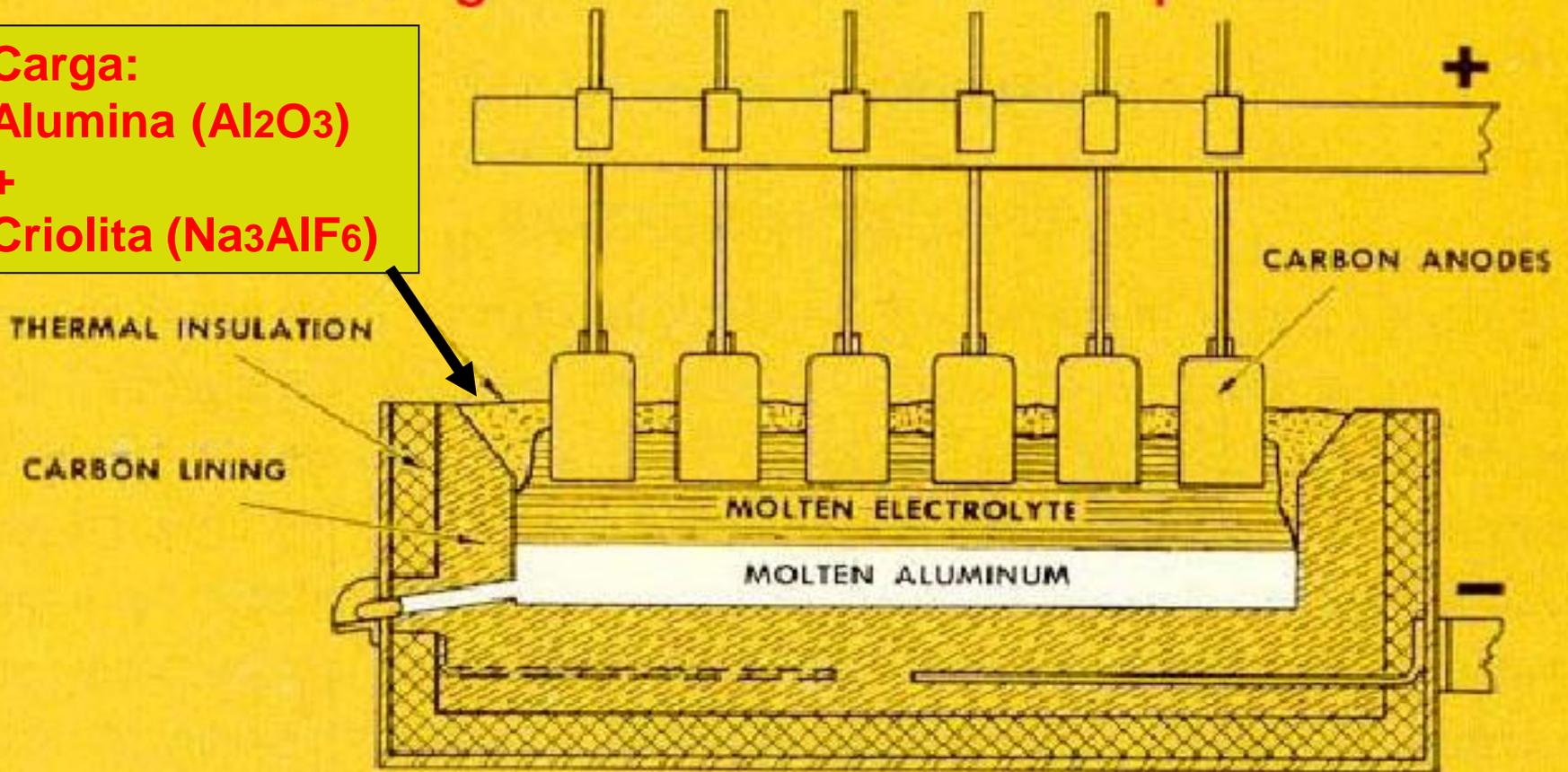


# Proceso Bayer:



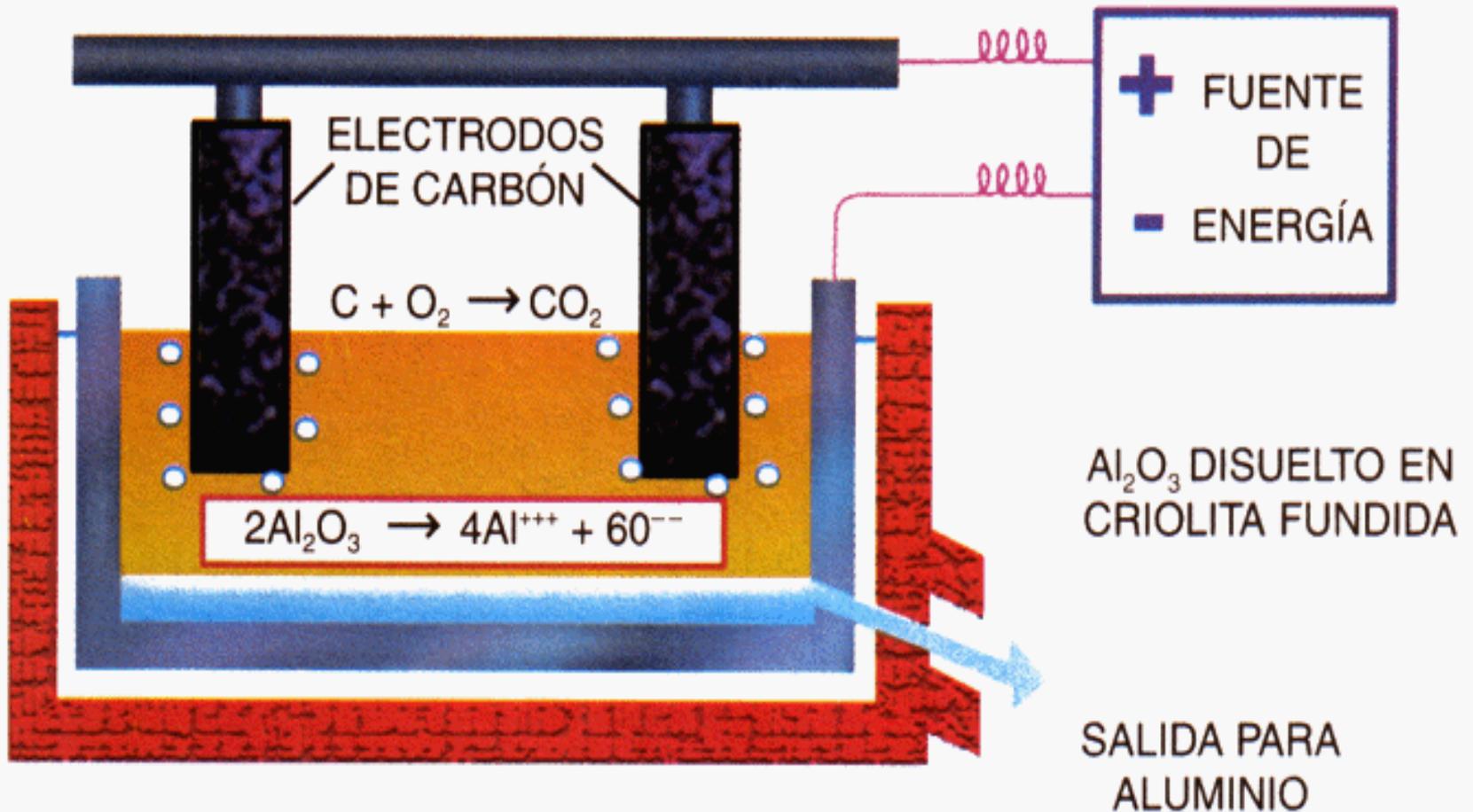
# A diagram of the Hall-Héroult process

**Carga:**  
**Alumina ( $\text{Al}_2\text{O}_3$ )**  
**+ Criolita ( $\text{Na}_3\text{AlF}_6$ )**

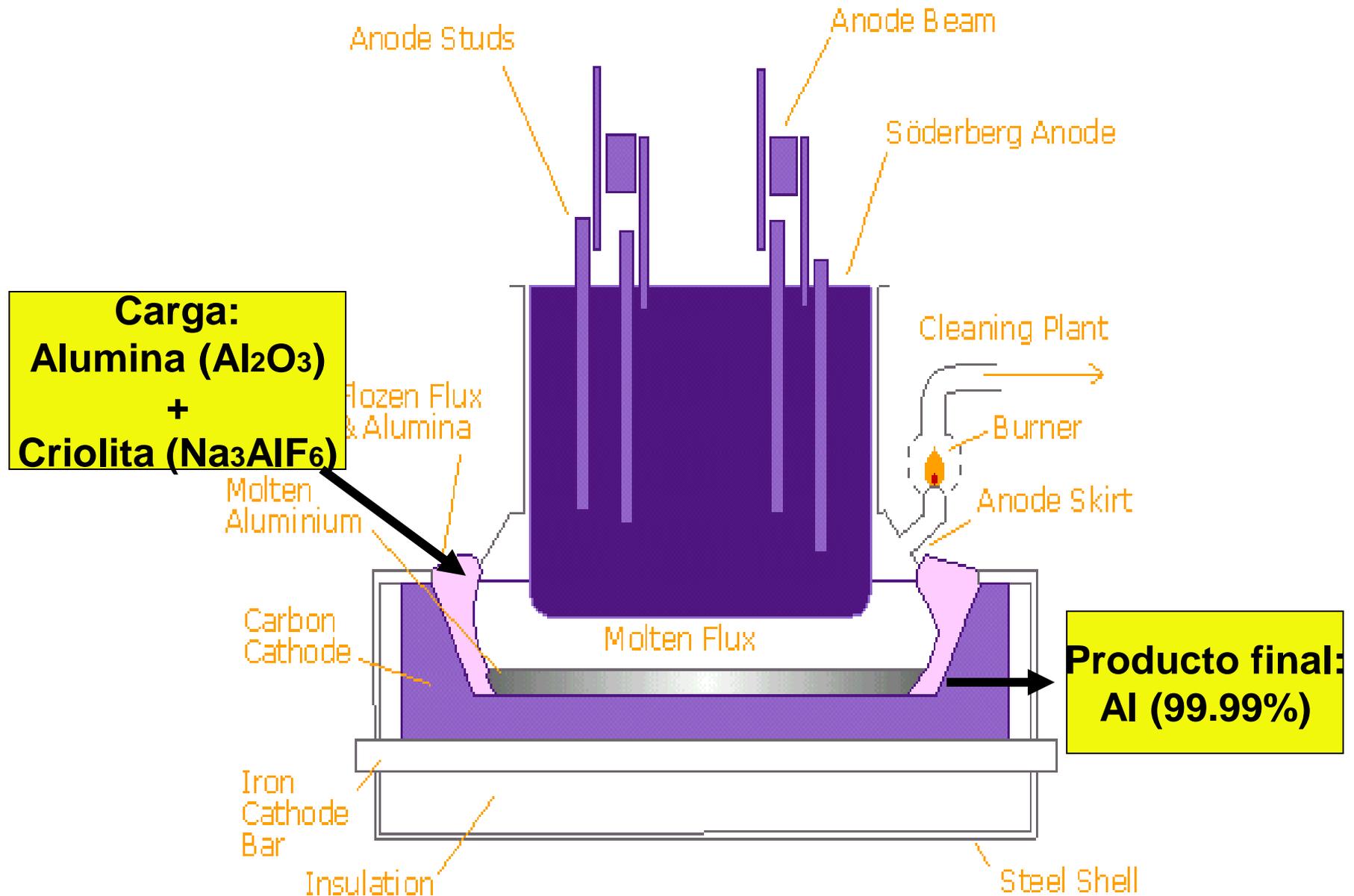


**Producto final:**  
**Al (99.99%)**

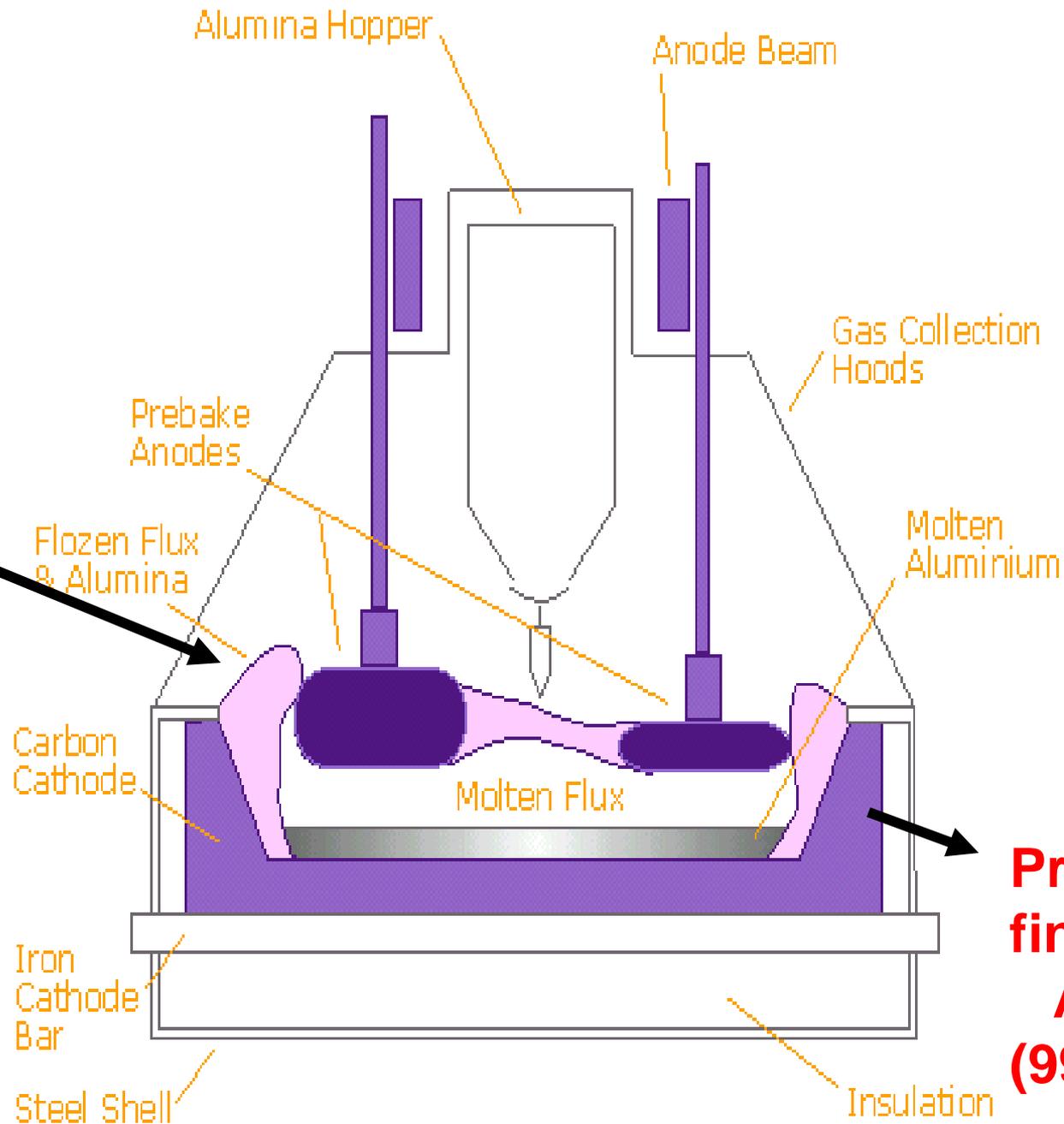
# PROCESO HALL: ALUMINIO



# La tecnología Söderburg:



**Carga:**  
**Alumina**  
**(Al<sub>2</sub>O<sub>3</sub>)**  
+  
**Criolita**  
**(Na<sub>3</sub>AlF<sub>6</sub>)**



**Producto**  
**final:**  
**Al**  
**(99.99%)**