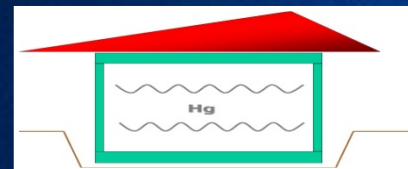


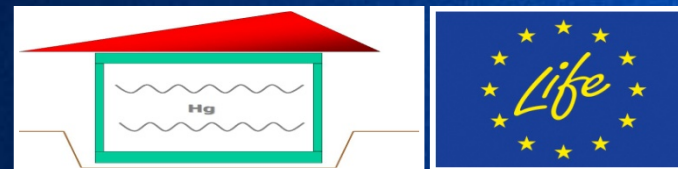
National Technological Center
for Mercury
Decontamination





MERSADE

(LIFE06 ENV/ES/PRE/03)

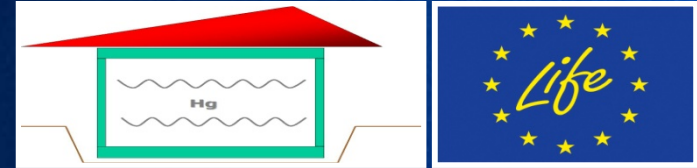


MERSADE STABILIZATION PROCESS:

As a form for the permanent storage of mercury

Patent : P200930672



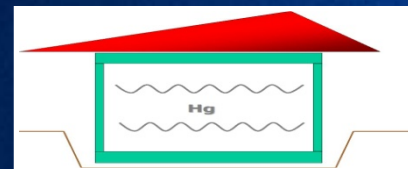


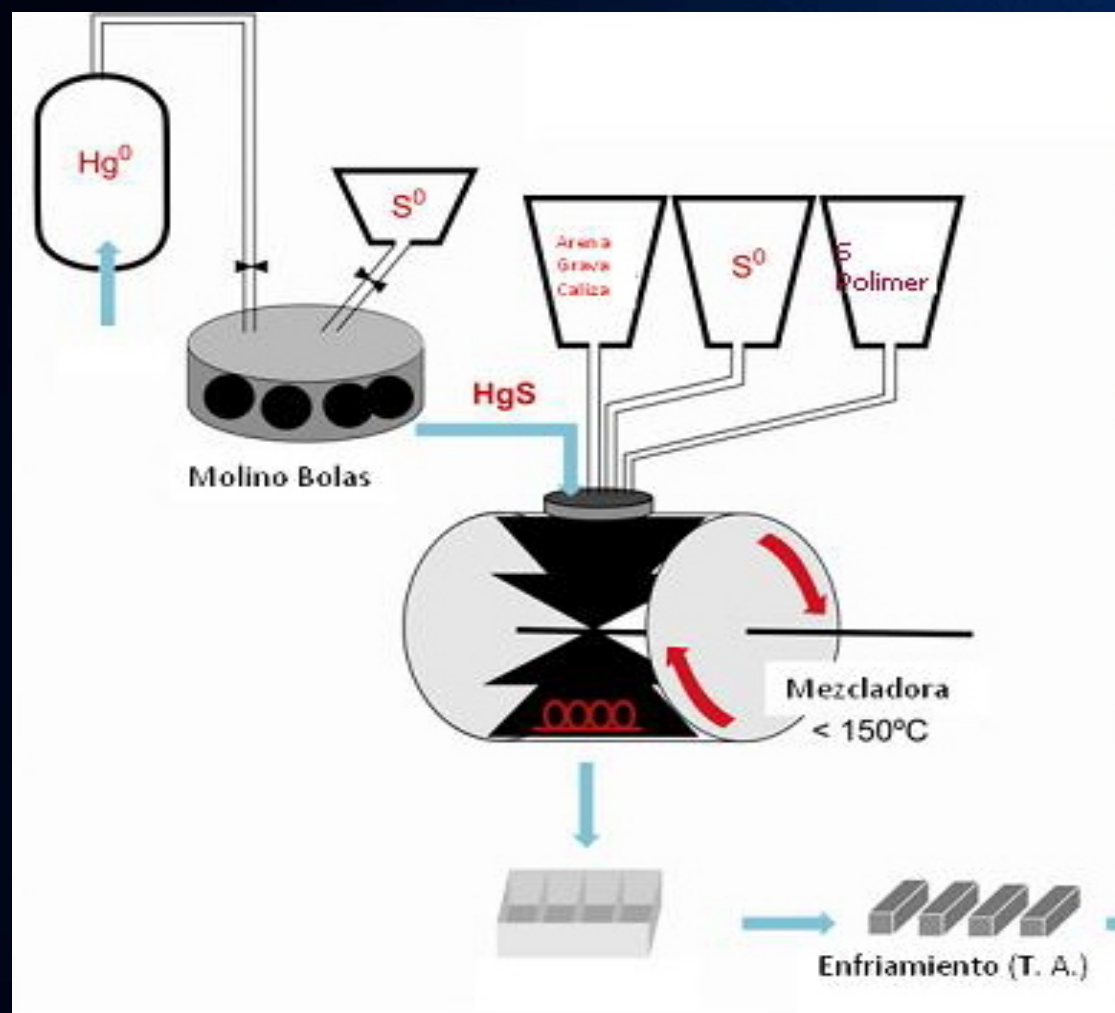
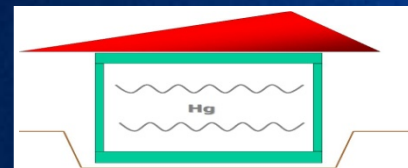
1.- Transformation of liquid mercury in HgS (metacinnabar) by reaction between liquid mercury and elemental sulfur, using the mechanical energy supplied by a planetary ball mill.



2.- Incorporation of metacinnabar into a polymeric S-concrete matrix composed of gravel, sand, filler, elemental sulfur and modified sulfur to obtain a final material similar to a concrete.

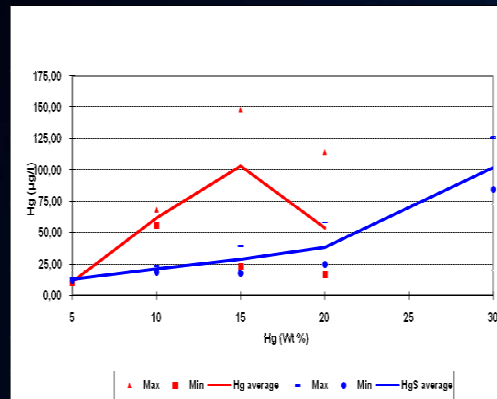






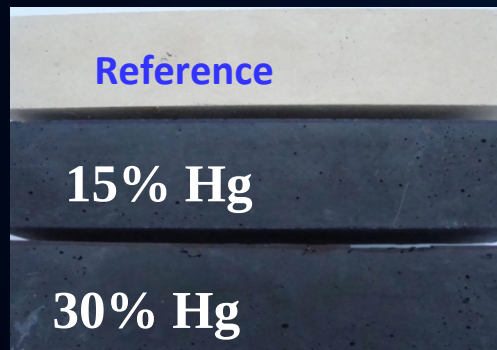
FINAL PRODUCT: Monolithic sample (rectangular parallelepiped of 16x16x4cm).

TOXICITY TESTS:



- Leachability test TCLP (EPA1311) (on crushed samples):

The content of Hg in the leachates is ~100 µg/l, **lower than** the maximum value accepted as limit for mercury in the Resource Conservation and Recovery Act Regulatory (**200 µg/l**)



- Hg emissions:

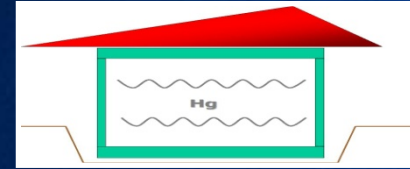
Mercury emission of samples were lower than those of cinnabar (100-150 times) and metacinnabar (15-20 times)

https://www.yunbaogao.cn/report/index/report?reportId=5_15729

预览已结束，完整报告链接和二维码如下：



gical Center



properties: (UNE 196-1:2005)

resistance to compression ($> 55 \text{ Nmm}^2$)

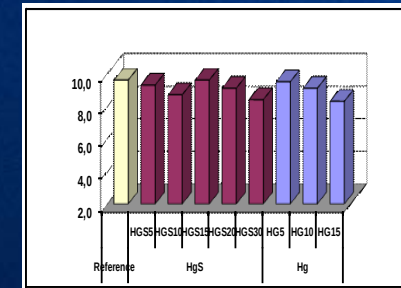
tural resistance ($> 8.5 \text{ Nmm}^2$)

properties:

porosity ($P_T = 1.97\%$)

pore volume ($V_p = 0.63 \times 10^{-2} \text{ cm}^3/\text{g}$)

n density: 3.181 gr/cm^3 for content of 30 % Hg w/w



properties:

osorption under low pressure (RILEM N.4): negative. Rain
high velocity will not modify the surface of the sample.

osorption by Capillarity (UNE-EN-480-5): Extremely low
coeficient ($0,07 \text{ gr/cm}^2$) very low permeability