

SPANISH TECHNOLOGICAL DEVELOPMENTS ON Hg STABILIZATION AND Hg CONTAINING WASTES

**WORKSHOP ON MERCURY MANAGEMENT AND DECONTAMINATION
IN THE FRAMEWORK OF THE MEDITERRANEAN REGIONAL PLAN ON
MERCURY.**

Almadén, Spain, 12th / 13th December 2012



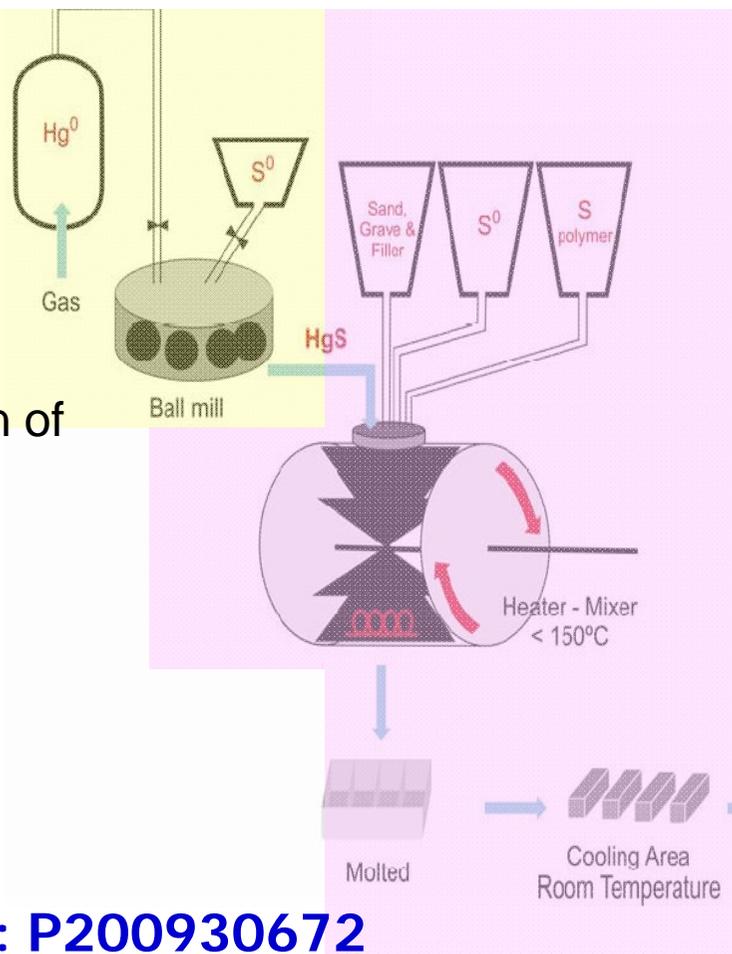
MERSADE Project main tasks (2006-2010):

1. Container for the safe temporary storage of metallic mercury



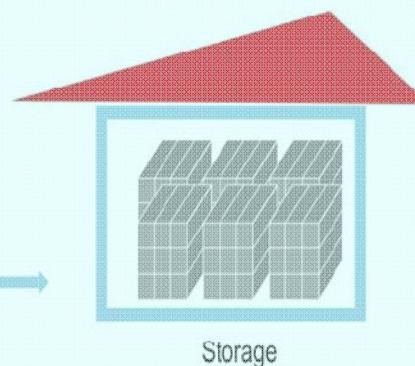
2. Stabilization / Microencapsulation technique.

Phase 1:
Stabilization of
HgS



Phase 2:
Microencapsulation

Final product



Patent: P200930672

Obtaining mercury sulphide:



Metallic Hg + Elemental sulfur particles (< 60 μm) react in a ball mill to obtain HgS (Cinnabar)

Microencapsulation in a sulphur matrix:



HgS



S



S polymer

HEATER-MIXER (<math><140^{\circ}\text{C}</math>)



POLIMERIC CEMENT OF SULPHUR (Artificial rock)



ADVANTAGES AND GUARANTEES :

- **Inert solid, more resistant than concrete, with low porosity and impermeable.**
- **The MICROENCAPSULATION provides a second and additional barrier for avoiding mercury releases to the environment.**
- **Safer product and easier to be managed: physically and chemically much more stable and environmentally safer.**
- **During the process, 100% of Hg is transformed.**
- **Low energy consumption.**
- **No water consumption, and neither effluents nor wastes are generated.**
- **Ordinary, abundant and affordable reagents.**



- **The estimated cost of the stabilization process is around 2,000 €/t of metallic mercury**
- **The CTNDM has experts to carry out a safe and environmentally sound comprehensive management of mercury (including collection, transport, temporary storage and disposal).**
- **Facilities for the environmentally sound permanent storage with absolute environmental guarantees already exist in Almaden.**
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¿ what 's next step ?

https://www.yunbaogao.cn/report/index/report?reportId=5_14391

预览已结束，完整报告链接和二维码如下：



Center

RESEARCH WORKS DONE

HAVE DEMONSTRATED THAT:

.OGY is fully effective to stabilize and microencapsulate metallic **hichever degree of purity, no needing previous distillation.**

.OGY is **directly applicable** to a wide range of mercury containing **erse industrial processes, without previous treatment.**

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