

## Primary Lead Processing\*

**Sintering**  
 Input: Pb Concentrate + iron, silica, limestone fluxes, coke etc.  
 Reaction:  $2PbS + 3O_2 \Rightarrow 2PbO + 2SO_2$

## Secondary Lead Processing

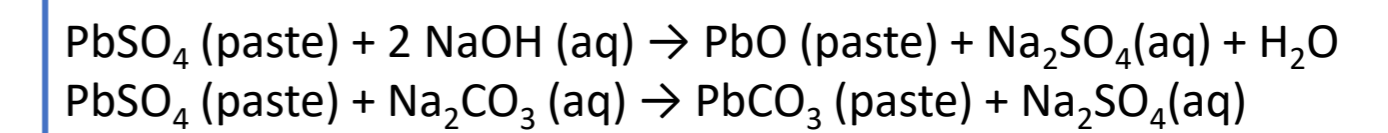
Input: Lead scrap, battery waste + slag, scrap iron, limestone, coke, oxides, dross, and reverberatory slag

## Lead acid battery Processing

Slimes & sludges, battery scrap antimony & lead-rich

### Indirect processing

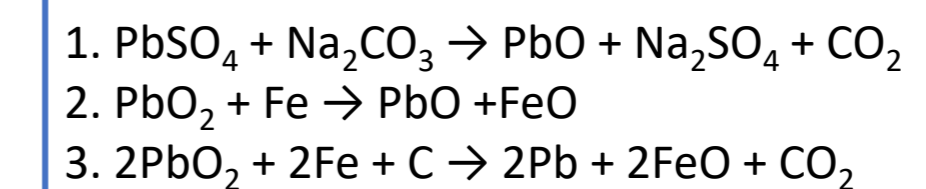
Slimes and sludges battery scrap antimony and lead rich are made by aqueous alkaline leaching of the majority of the sulphate from the lead-containing material recovered from recycled lead-acid batteries. The lead is mainly present as carbonates.



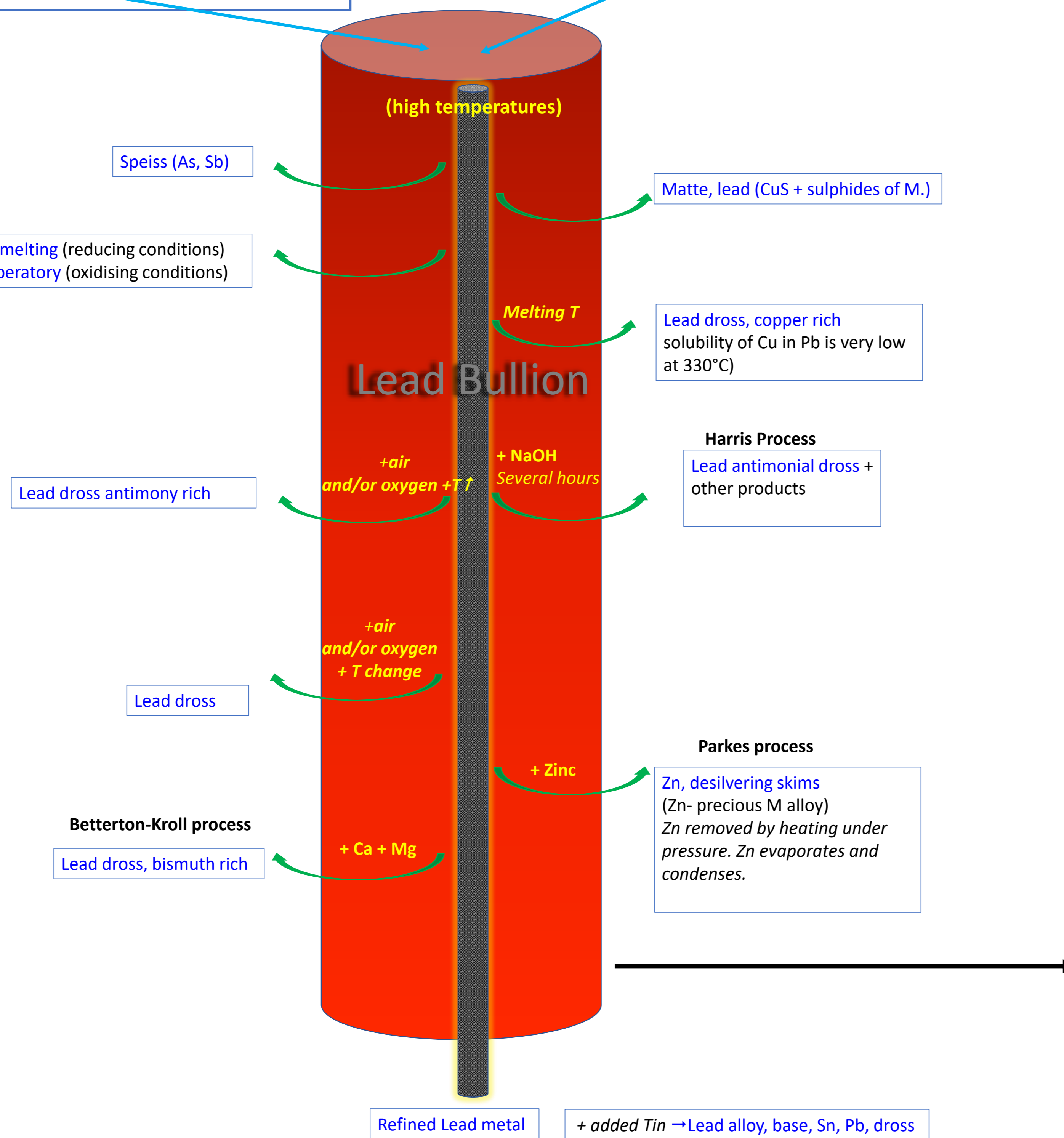
Waste, battery reprocessing

### Direct processing:

Wastes, lead battery reprocessing is made by recovering the lead compounds from exhausted lead-acid batteries and converting it into a prepared solid feed suitable for lead smelting. Lead is mainly present as oxides, sulphates and in metallic form



Enriching Pb



Flue dust, lead refining  
 Flue dust lead refining is formed as a by-product from refining and smelting of lead containing materials

\*Please note: Not all reactions and products are shown. The focus of this schematic is to show the conditions under which the individual Lead UVCBs are isolated. UVCBs indicated in blue font.