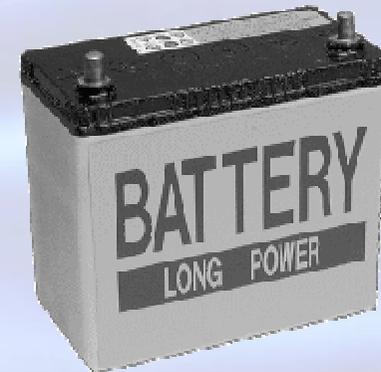


Innovative ionic technology from JAPAN 

Super  Ionic Sulfation Decomposer
DESULFATION

Vitalize Lead Battery on Electro-chemistry



[Http://www.ecoglobe21.com](http://www.ecoglobe21.com)
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Presented by



What Super DESULFATION can do?



1. REUSE of waste lead battery
2. Life extension of lead battery
3. Improving conductive property



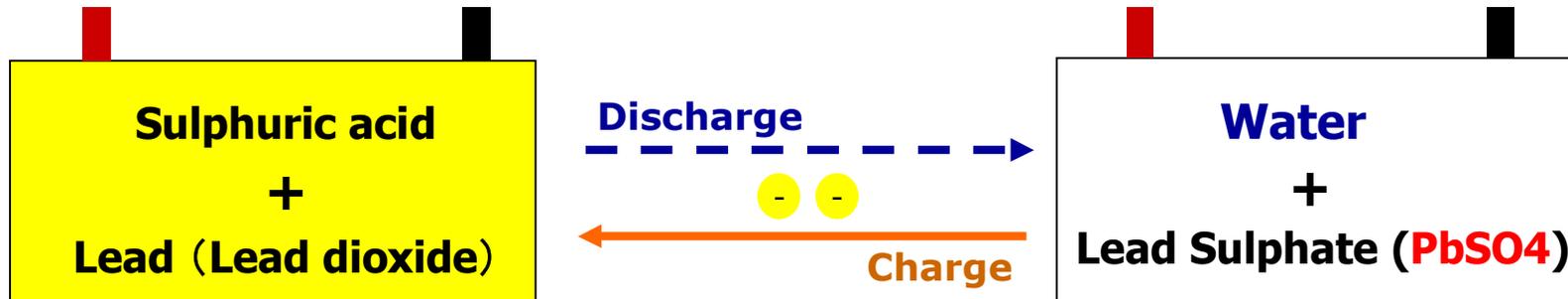
Example 1

Regenerate waste batteries from periodical replacement of UPS (Uninterruptible Power Systems) and REUSE them for power storage applications, for example, Off grid power storage of Renewable energy generation, Peak-shift night power storage, etc.

Example 2

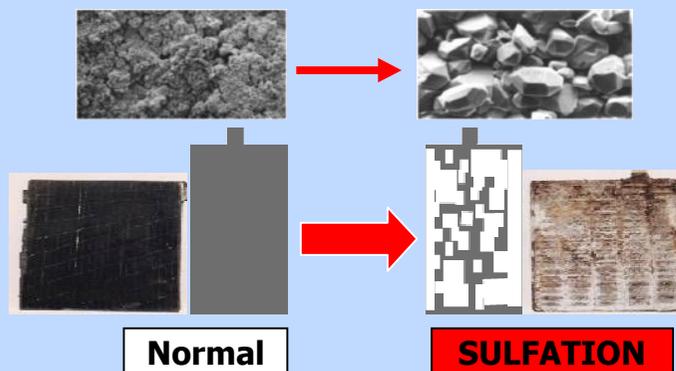
Give a vitalize treatment to the weak batteries on Forklift, Golf cart, Power storage etc., instead of new replacement, the batteries can be used one another lifetime cycle.

Battery lifetime is the speed of **SULFATION** grow



Charge/Discharge cycle = **Chemical reaction**

Crystallized **PbSO4** is "SULFATION"



What is it?

1. Increasing Internal resistance
2. Reducing reacting area of Plates
3. It's a part of battery components

Conductive property ↓

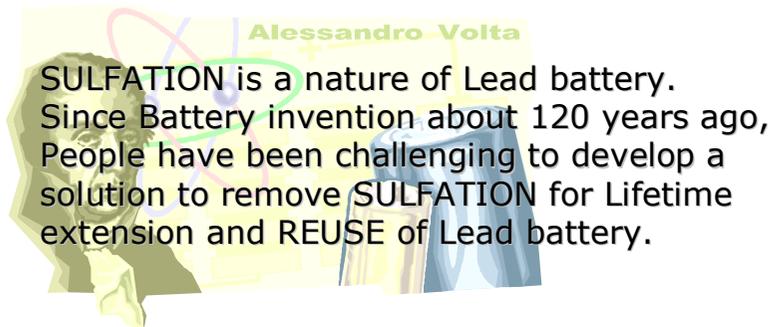
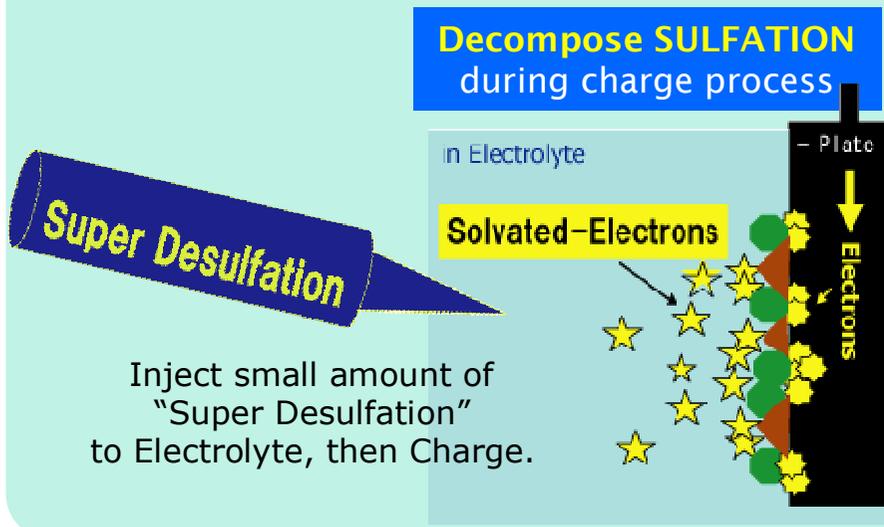
Battery capacity ↓

Supply electrons directly to Sulfation to decompose

On the electrochemistry, "Sulfation will decompose by receiving 2 electrons" BUT how?

SULFATION is crystallized PbSO_4 .
 PbSO_4 is composed at discharge (... 2 electrons OUT).

Great deal of "Super Desulfation" is the perfect solution.
decompose SULFATION by direct feed of electrons (... 2 electrons IN).



Just removing Sulfation, not the complete solution.



... need density adjustments of Sulphuric-acid

Invention of Semiconductor to produce “Solvated-electrons”

Patent No: JP2002-069476, JP3463660

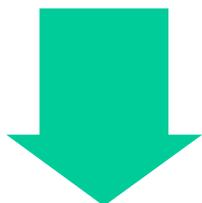
“Semiconductor to produce “Solo stand of electrons in the solvent”

- Tech. Designed by Dr. N. Yamano, Prof. Tokyo Univ. Graduate school
- Put into practice by Mr. Karino, CEO, Manufacture of “Super Desulfation”

“Electron liquid” can be produced by this technology.



Commercialized



*Japan Quality Assurance
<http://www.jqa.jp/english/index.html>



High content of Solvated-electron solution
for Lead-Acid battery vitalization

“Super DESULFATION”

*JQA No.10-90026

Examples of academic society presentations by Mr. Karino
Regarding “Activated solvated-electron solution”

2008

49th Battery Electrochemical Symposium

Host: Electrochemical Society of Japan

Co-host: The Chemical Society of Japan, etc.

2005

Presentation at The Chemical Society of Japan

Development of Environmentally-harmonize type
of Enforce battery activator

Study of Replacing and Revival from CO2 emission prospective

appendix

Simulation of CO2 emission on "Replacing by New batteries" and "Revival use"

Battery: MSE-1000Ah x 54 cell

+ Assumed to be same lifespan on New battery and Revival battery



Manuf. Process : 753kg
Material production. : 7,254kg

Power consumption : 22.4kg
on Revival process

Thermal power CO2 emission coefficient : 0.69kg-CO2 / KWh
Thermal power petroleum consumption : 0.227 litter / KWh



30% charge during Revival process
 $1000Ah \times 30\% \times 2V = 600Wh$
 $600W \times 54cell = 32.4KWh$
 $32.4KWh \times 0.69kg = 22.4kg$