

# Recovery Of Platinum From Chloride Leaching Solution Of

Platinum Lake  
Technology Inc.,  
Canada ( Ryder  
and Dymock,  
1990) developed

*Page 1/117*

a hydrometallurgical process for the recovery of precious metals from spent automotive catalysts following acid leaching in chloride medium. The small-scale process with

*Page 2/117*

95% Pt and 98% Pd recovery was used for commercial applications. Platinum was recovered from the leaching liquor of spent petroleum catalyst by solvent

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extraction. Most of platinum in the spent catalysts was leached by using a mixture of HCl and H<sub>2</sub>O<sub>2</sub> from the...

## Recovery Of Platinum From Chloride An aluminum

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chloride leach  
process was  
developed for  
recovery of both  
platinum and  
palladium from  
an alumina pellet  
catalyst

Letowski and  
Distin, 1985,  
Letowski and  
Distin, 1987,

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Letowski and  
Distin, 1989.  
The leachate  
was an aqua  
regia type  
solution in which  
part of the  
hydrochloric acid  
content was  
replaced by  
aluminium  
chloride to lower

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the acid  
consumption.

Recovery of  
platinum from  
spent catalyst -  
ScienceDirect  
Recovery of  
Platinum and  
Palladium from  
Chloride  
Solutions by a T

*Page 7/117*

hidroglicolamida  
Derivativa Ana  
Paula Paiva  
Centro de  
Química e  
Bioquímica,  
Departamento de  
Química e  
Bioquímica,  
Faculdade de  
Ciências da  
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Lisboa (DQB-  
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Recovery of  
Platinum and  
Palladium from  
Chloride  
Solutions ...  
Platinum (Pt) is

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typically  
recovered by  
employing  
dissolution  
processes in  
aqueous  
solutions;  
however, these  
processes  
require a long  
processing time  
and c In order to

*Page 10/117*

develop an efficient dissolution process, we studied chlorination treatments for Pt prior to dissolution.

Effective  
Dissolution of

*Page 11/117*

Platinum by  
Using Chloride  
Salts ...

Platinum Lake  
Technology Inc.,  
Canada ( Ryder  
and Dymock,  
1990) developed  
a hydrometallurg  
ical process for  
the recovery of  
precious metals

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from spent  
automotive  
catalysts  
following acid  
leaching in  
chloride medium.  
The small-scale  
process with  
95% Pt and 98%  
Pd recovery was  
used for  
commercial

*Page 13/117*

applications.

Hydrometallurgical recovery/recycling of platinum by the ...

The investigation is devoted to sorption recovery of platinum (II, IV) from chloride

*Page 14/117*

solutions, freshly prepared and kept over 3 months, on commercial anion exchangers with different physical and ...

Ion exchange recovery of platinum from

*Page 15/117*

chloride  
solutions ...  
A short video  
demonstrating  
the real time  
precipitation of  
Platinum from  
solution using a  
saturated  
potassium  
chloride solution.  
The platinum

*Page 16/117*

solution was  
created from  
military scrap.

Precipitating  
Platinum Using  
Potassium  
Chloride  
Recovery of  
Platinum Group  
Metals from  
Spent Catalysts

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Using Iron Chloride Vapor Treatment. The samples simulating the automobile catalyst were also subjected to magnetic separation after the treatment with  $\text{FeCl}_2$

*Page 18/117*

vapor; as a result, PGMs were successfully extracted and concentrated in the form of a magnetic powder.

## Recovery of Platinum Group

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# Metals from Spent Catalysts

...

ratio on leaching  
platinum and  
palladium have  
been

investigated. The  
possibility of  
recovery of  
platinum and  
palladium from

*Page 20/117*

leaching solution  
is investigate by  
the chemical  
precipitation  
using ammonium  
chloride ( $\text{NH}_4\text{Cl}$ ) and sodium  
chlorate ( $\text{NaClO}_3$ ) as precipitant  
agents for  
recovery of  
platinum and

*Page 21/117*

palladium,  
respectively. 2.

Recovery of  
Platinum and  
Palladium from  
Scrap  
Automotive ...  
Ion exchange  
resins were  
investigated for  
the effective

*Page 22/117*

recovery of platinum, palladium, and gold from a pregnant cyanide heap leach solution.

Screening results indicated that strong-base anion exchange resins proved to

*Page 23/117*

be most effective  
in the recovery  
of these metal  
cyanides.

THE RECOVERY  
OF PLATINUM,  
PALLADIUM,  
AND GOLD  
FROM A ...

In this video, I'll  
show you how to

*Page 24/117*

recovery the  
platinum from  
the plate from  
the hard disk.  
Please note that  
not all discs have  
platinum in it. In  
the next video  
we will refine  
the platinum  
films ...

Platinum  
recovery from  
Hdd plates part 1  
Decant the  
solution and  
recover the  
platinum salts.  
Rinse the  
platinum salts  
with water, being  
careful not to  
pour platinum off

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with the rinse water. Neutralize the acid with baking soda and then dispose of it. At this point, the platinum will be a compound- platinum ammonium chloride.

Instructions for  
Refining  
Platinum with  
Aqua Regia  
Leaching and  
recovery of  
platinum group  
metals from  
UG-2  
concentrates  
yields were not  
good (less than

*Page 28/117*

40 per cent).  
Platinum  
leaching was  
particularly poor  
with cyanide  
(ambient  
temperature). A  
HCl/chlorine  
leach on  
untreated  
material had the  
same effect as a

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cyanide leach  
with a nitric acid  
pre-leach,

Leaching and  
recovery of  
platinum group  
metals from  
UG-2 ...

Platinum was  
recovered from  
the leaching

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liquor of spent  
petroleum  
catalyst by  
solvent  
extraction. Most  
of platinum in the  
spent catalysts  
was leached by  
using a mixture  
of HCl and H<sub>2</sub>O<sub>2</sub>  
from the...

Recovery of  
Platinum from  
Chloride  
Leaching  
Solution of ...  
Stannous  
chloride test  
solution is one of  
the most  
important tool  
and a must have  
for any precious

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metal recovery  
and refining  
process, this test  
solution will tell  
you if there is  
presence of  
dissolved  
precious metals  
(gold, platinum  
and palladium) in  
a solution or not.

Stannous  
Chloride – Test  
For Gold,  
Platinum and  
Palladium ...  
Refining Pt In  
Catalytic  
Converters. ...  
Sign Up  
PLATINUM  
RECOVERY!  
PLATINUM

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REFINING! Pt  
EXTRACTION!  
Pd PRECIPITAT  
ION! DO IT  
YOURSELF  
VIDEOS STEP  
BY STEP!  
LEARN  
PLATINUM AND  
PALLADIUM  
REFINING AT  
HOME AND

*Page 35/117*

HOW PREPARE  
TO SEND THEM  
TO  
REFINERIES! ...

Platinum  
Chloride And  
Palladium  
Chloride Start  
Testing: For  
Platinum  
Chloride Or  
Palladium

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Chloride

Refining  
Platinum In  
Catalytic  
Converters  
Continue heating  
until all the  
platinum is  
dissolved (that  
may take 1-2  
hours). When

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completely dissolved at 1 ounce of ammonium chloride for every ounce of dissolved platinum. The platinum will precipitate as a red mud. If you want to leave the

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iridium in the  
platinum, then  
wait for it to  
precipitate  
before  
recovering the  
platinum.

"Gold Recovery  
for Dummies?"  
recovery of  
gold, silver and

*Page 39/117*

platinum group  
metals (it is best  
to recover  
platinum group  
metals in a cl  
electrolytic tank)  
this page covers  
the very basics  
of precious metal  
recovery.

**REFINING-**

*Page 40/117*

RECOVERY OF  
GOLD,SILVER  
AND PLATINUM  
GROUP  
METALS

For Equine  
Athletic

Performance

Recovery

Platinum Renew

® helps maintain  
muscle strength,

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supports  
performance  
recovery, and  
reduces  
soreness and  
fatigue by  
providing amino  
acids (the  
building blocks  
of protein) and  
antioxidants, and  
replenishing

*Page 42/117*

healthy levels of electrolytes.

Amino Acids for Horses - Platinum Performance  
In either case, a solution containing platinum and palladium as

*Page 43/117*

chlorides must be processed for their recovery. In general, this is done by adding ammonium chloride to the solution, thereby precipitating platinum as ammonium chloroplatinate.

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Precious Metal  
Refining  
Reverse  
electroplating for  
environment-  
friendly gold  
recovery /  
refining 2001. Q.  
I am about to  
embark on scrap  
circuit board

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recycling,  
primarily for the  
gold and  
platinum content.  
I am about to set  
myself up with  
an acid solution  
[aqua regia],  
that dissolves  
the precious  
metals, but is  
very dangerous

*Page 46/117*

to handle.

In either case, a solution containing platinum and palladium as chlorides must be processed for their recovery. In general, this is

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done by adding ammonium chloride to the solution, thereby precipitating platinum as ammonium chloroplatinate. In this video, I'll show you how to recover the platinum from

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the plate from  
the hard disk.  
Please note that  
not all discs have  
platinum in it. In  
the next video  
we will refine  
the platinum  
films ...

Recovery Of  
Platinum From  
Chloride

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An aluminum chloride leach process was developed for recovery of both platinum and palladium from an alumina pellet catalyst

Letowski and  
Distin, 1985,  
Letowski and

*Page 50/117*

Distin, 1987,  
Letowski and  
Distin, 1989.  
The leachate  
was an aqua  
regia type  
solution in which  
part of the  
hydrochloric acid  
content was  
replaced by  
aluminium

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chloride to lower  
the acid  
consumption.

Recovery of  
platinum from  
spent catalyst -  
ScienceDirect  
Recovery of  
Platinum and  
Palladium from  
Chloride

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Solutions by a T  
hidoglycolamide  
Derivative Ana  
Paula Paiva  
Centro de  
Qu í mica e  
Bioqu í mica,  
Departamento de  
Qu í mica e  
Bioqu í mica ,  
Faculdade de  
Ci ê ncias da

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Universidade de  
Lisboa (DQB-  
FCUL) , Lisboa ,  
Portugal  
Correspondence  
appaiva@fc.ul.pt

Recovery of  
Platinum and  
Palladium from  
Chloride  
Solutions ...

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Platinum (Pt) is typically recovered by employing dissolution processes in aqueous solutions; however, these processes require a long processing time

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and c In order to develop an efficient dissolution process, we studied chlorination treatments for Pt prior to dissolution.

**Effective**

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Dissolution of  
Platinum by  
Using Chloride  
Salts ...  
Platinum Lake  
Technology Inc.,  
Canada ( Ryder  
and Dymock,  
1990) developed  
a hydrometallurg  
ical process for  
the recovery of

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precious metals  
from spent  
automotive  
catalysts  
following acid  
leaching in  
chloride medium.  
The small-scale  
process with  
95% Pt and 98%  
Pd recovery was  
used for

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commercial  
applications.

Hydrometallurgical  
recovery/recycling  
of platinum  
by the ...

The investigation  
is devoted to  
sorption  
recovery of  
platinum (II, IV)

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from chloride solutions, freshly prepared and kept over 3 months, on commercial anion exchangers with different physical and ...

Ion exchange  
recovery of

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platinum from  
chloride  
solutions ...  
A short video  
demonstrating  
the real time  
precipitation of  
Platinum from  
solution using a  
saturated  
potassium  
chloride solution.

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The platinum solution was created from military scrap.

Precipitating  
Platinum Using  
Potassium  
Chloride  
Recovery of  
Platinum Group  
Metals from

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Spent Catalysts  
Using Iron  
Chloride Vapor  
Treatment. The  
samples  
simulating the  
automobile  
catalyst were  
also subjected to  
magnetic  
separation after  
the treatment

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with  $\text{FeCl}_2$  vapor; as a result, PGMs were successfully extracted and concentrated in the form of a magnetic powder.

## Recovery of

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# Platinum Group Metals from Spent Catalysts

...

ratio on leaching  
platinum and  
palladium have  
been

investigated. The  
possibility of  
recovery of  
platinum and

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palladium from leaching solution is investigated by the chemical precipitation using ammonium chloride ( $\text{NH}_4\text{Cl}$ ) and sodium chlorate ( $\text{NaClO}_3$ ) as precipitant agents for recovery of

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platinum and  
palladium,  
respectively. 2.

Recovery of  
Platinum and  
Palladium from  
Scrap  
Automotive ...  
Ion exchange  
resins were  
investigated for

*Page 67/117*

the effective recovery of platinum, palladium, and gold from a pregnant cyanide heap leach solution.

Screening results indicated that strong-base anion exchange

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resins proved to be most effective in the recovery of these metal cyanides.

## THE RECOVERY OF PLATINUM, PALLADIUM, AND GOLD FROM A ...

In this video, I'll

*Page 69/117*

show you how to  
recovery the  
platinum from  
the plate from  
the hard disk.  
Please note that  
not all discs have  
platinum in it. In  
the next video  
we will refine  
the platinum  
films ...

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Platinum  
recovery from  
Hdd plates part 1  
Decant the  
solution and  
recover the  
platinum salts.  
Rinse the  
platinum salts  
with water, being  
careful not to

*Page 71/117*

pour platinum off with the rinse water. Neutralize the acid with baking soda and then dispose of it. At this point, the platinum will be a compound- platinum ammonium chloride.

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Instructions for  
Refining  
Platinum with  
Aqua Regia  
Leaching and  
recovery of  
platinum group  
metals from  
UG-2  
concentrates  
yields were not

*Page 73/117*

good (less than 40 per cent).  
Platinum leaching was particularly poor with cyanide (ambient temperature). A HCl/chlorine leach on untreated material had the

*Page 74/117*

same effect as a cyanide leach with a nitric acid pre-leach,

Leaching and recovery of platinum group metals from UG-2 ...

Platinum was recovered from

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the leaching  
liquor of spent  
petroleum  
catalyst by  
solvent  
extraction. Most  
of platinum in the  
spent catalysts  
was leached by  
using a mixture  
of HCl and H<sub>2</sub>O<sub>2</sub>  
from the...

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Recovery of  
Platinum from  
Chloride  
Leaching  
Solution of ...  
Stannous  
chloride test  
solution is one of  
the most  
important tool  
and a most have

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for any precious metal recovery and refining process, this test solution will tell you if there is presence of dissolved precious metals (gold, platinum and palladium) in a solution or not.

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Stannous  
Chloride – Test  
For Gold,  
Platinum and  
Palladium ...  
Refining Pt In  
Catalytic  
Converters. ...  
Sign Up  
PLATINUM  
RECOVERY!

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PLATINUM  
REFINING! Pt  
EXTRACTION!  
Pd PRECIPITAT  
ION! DO IT  
YOURSELF  
VIDEOS STEP  
BY STEP!  
LEARN  
PLATINUM AND  
PALLADIUM  
REFINING AT

*Page 80/117*

HOME AND  
HOW PREPARE  
TO SEND THEM  
TO  
REFINERIES! ...

Platinum  
Chloride And  
Palladium  
Chloride Start  
Testing: For  
Platinum  
Chloride Or

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# Palladium Chloride

Refining  
Platinum In  
Catalytic  
Converters  
Continue heating  
until all the  
platinum is  
dissolved (that  
may take 1-2

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hours). When completely dissolved at 1 ounce of ammonium chloride for every ounce of dissolved platinum. The platinum will precipitate as a red mud. If you

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want to leave the  
iridium in the  
platinum, then  
wait for it to  
precipitate  
before  
recovering the  
platinum.

"Gold Recovery  
for Dummies?"  
recovery of

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gold, silver and platinum group metals (it is best to recover platinum group metals in a chloride electrolytic tank) this page covers the very basics of precious metal recovery.

REFINING-  
RECOVERY OF  
GOLD,SILVER  
AND PLATINUM  
GROUP  
METALS

For Equine  
Athletic

Performance  
Recovery

Platinum Renew

® helps maintain

*Page 86/117*

muscle strength,  
supports  
performance  
recovery, and  
reduces  
soreness and  
fatigue by  
providing amino  
acids (the  
building blocks  
of protein) and  
antioxidants, and

*Page 87/117*

replenishing  
healthy levels of  
electrolytes.

Amino Acids for  
Horses -  
Platinum  
Performance  
In either case, a  
solution  
containing  
platinum and

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palladium as chlorides must be processed for their recovery. In general, this is done by adding ammonium chloride to the solution, thereby precipitating platinum as ammonium

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chloroplatinate.

Precious Metal  
Refining  
Reverse  
electroplating for  
environment-  
friendly gold  
recovery /  
refining 2001. Q.  
I am about to  
embark on scrap

*Page 90/117*

circuit board  
recycling,  
primarily for the  
gold and  
platinum content.  
I am about to set  
myself up with  
an acid solution  
[aqua regia],  
that dissolves  
the precious  
metals, but is

*Page 91/117*

very dangerous  
to handle.

Platinum  
recovery from  
Hdd plates part  
1

Recovery Of  
Platinum From  
Chloride

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*recovery-of-platinum-from-chloride-leaching-solution-of*

The  
investigation  
is devoted to  
sorption  
recovery of  
platinum (II,  
IV) from  
chloride  
solutions,  
freshly  
prepared and  
kept over  
3months, on

*Page 93/117*

commercial  
anion  
exchangers with  
different  
physical and  
...  
ratio on  
leaching  
platinum and  
palladium have  
been  
investigated.

The possibility

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of recovery of  
platinum and  
palladium from  
leaching  
solution is  
investigate by  
the chemical  
precipitation  
using ammonium  
chloride ( $\text{NH}_4\text{Cl}$ ) and sodium  
chlorate ( $\text{NaClO}_3$ ) as

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precipitant  
agents for  
recovery of  
platinum and  
palladium,  
respectively.

2.

**Stannous  
Chloride - Test  
For Gold,  
Platinum and  
Palladium ...**

Refining Platinum In  
Catalytic Converters  
Recovery of Platinum  
Group Metals from  
Spent Catalysts ...

"Gold Recovery for  
Dummies?"

Instructions for Refining  
Platinum with Aqua  
Regia

Hydrometallurgical  
recovery / recycling of  
platinum by the ...

*Page 97/117*

*recovery-of-platinum-from-chloride-leaching-solution-of*

Recovery of Platinum Group Metals from Spent Catalysts Using Iron Chloride Vapor Treatment. The samples simulating the automobile catalyst were also subjected to magnetic separation after the treatment with  $\text{FeCl}_2$  vapor; as a result, PGMs were successfully extracted and concentrated in the

*Page 98/117*

form of a magnetic powder.

Ion exchange resins were investigated for the effective recovery of platinum, palladium, and gold from a pregnant cyanide heap leach solution.

Screening results indicated that strong-base anion exchange resins proved to be most

*Page 99/117*

effective in the recovery of these metal cyanides.

**Recovery of platinum from spent catalyst - ScienceDirect**

Reverse electroplating for environment-friendly gold recovery / refining 2001. Q. I am about to embark on scrap circuit board recycling, primarily for the gold and platinum content. I am about to

*Page 100/117*

set myself up with an acid solution [aqua regia], that dissolves the precious metals, but is very dangerous to handle.

Decant the solution and recover the platinum salts. Rinse the platinum salts with water, being careful not to pour platinum off with the rinse

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water. Neutralize the acid with baking soda and then dispose of it. At this point, the platinum will be a compound- platinum ammonium chloride. An aluminum chloride leach process was developed for recovery of both platinum and palladium from an alumina pellet catalyst

*Page 102/117*

Letowski and Distin, 1985, Letowski and Distin, 1987, Letowski and Distin, 1989. The leachate was an aqua regia type solution in which part of the hydrochloric acid content was replaced by aluminium chloride to lower the acid consumption.

Recovery of Platinum and Palladium from

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Chloride Solutions by  
a Thiodiglycolamide  
Derivative Ana Paula  
Paiva Centro de  
Química e  
Bioquímica,  
Departamento de  
Química e Bioquímica  
, Faculdade de  
Ciências da  
Universidade de  
Lisboa (DQB-FCUL) ,  
Lisboa , Portugal  
Correspondence

*Page 104/117*

appaiva@fc.ul.pt  
**Amino Acids for  
Horses - Platinum  
Performance  
Precipitating  
Platinum Using  
Potassium Chloride**

**REFINING-  
RECOVERY OF  
GOLD,SILVER  
AND PLATINUM  
GROUP METALS**

*Page 105/117*

*recovery-of-platinum-from-chloride-leaching-solution-of*

Continue heating until all the platinum is dissolved (that may take 1-2 hours). When completely dissolved at 1 ounce of ammonium chloride for every ounce of dissolved platinum. The platinum will precipitate as a red

*Page 106/117*

mud. If you want to leave the iridium in the platinum, then wait for it to precipitate before recovering the platinum.

**THE RECOVERY  
OF PLATINUM,  
PALLADIUM, AND  
GOLD FROM A ...  
Precious Metal  
Refining**

*Page 107/117*

# **Recovery of Platinum from Chloride Leaching Solution of ...**

For Equine Athletic  
Performance  
Recovery Platinum  
Renew ® helps  
maintain muscle  
strength, supports  
performance  
recovery, and reduces

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soreness and fatigue by providing amino acids (the building blocks of protein) and antioxidants, and replenishing healthy levels of electrolytes. recovery of gold, silver and platinum group metals (it is best to recover platinum group metals in a chloride electrolytic tank) this page covers the very

*Page 109/117*

basics of precious metal recovery.

A short video demonstrating the real time precipitation of Platinum from solution using a saturated potassium chloride solution. The platinum solution was created from military scrap.

**Ion exchange  
recovery of platinum**

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## **from chloride solutions ...**

Platinum (Pt) is typically recovered by employing dissolution processes in aqueous solutions; however, these processes require a long processing time and cost. In order to develop an efficient dissolution process, we studied chlorination

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treatments for Pt prior to dissolution.

## **Effective Dissolution of Platinum by Using Chloride Salts**

...

Leaching and recovery of platinum group metals from UG-2 concentrates yields were not good (less than 40 per

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cent). Platinum leaching was particularly poor with cyanide (ambient temperature). A HCl/chlorine leach on untreated material had the same effect as a cyanide leach with a nitric acid pre-leach,

Refining Pt In  
Catalytic Converters.  
... Sign Up

*Page 113/117*

PLATINUM  
RECOVERY!  
PLATINUM  
REFINING! Pt  
EXTRACTION! Pd  
PRECIPITATION! DO  
IT YOURSELF  
VIDEOS STEP BY  
STEP! LEARN  
PLATINUM AND  
PALLADIUM  
REFINING AT HOME  
AND HOW PREPARE  
TO SEND THEM TO

*Page 114/117*

REFINERIES! ...  
Platinum Chloride  
And Palladium  
Chloride Start  
Testing: For Platinum  
Chloride Or Palladium  
Chloride  
**Leaching and  
recovery of platinum  
group metals from  
UG-2 ...**

Stannous chloride test  
solution is one of the

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most important tool and a must have for any precious metal recovery and refining process, this test solution will tell you if there is presence of dissolved precious metals (gold, platinum and palladium) in a solution or not.

## **Recovery of Platinum and Palladium from**

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**Scrap Automotive ...  
Recovery of  
Platinum and  
Palladium from  
Chloride Solutions  
...**