Current Hallmark Symbols
What is a Hallmark?

Until 1998, a Hallmark consisted of four COMPULSORY MARKS. Since 1998 the date letter has become optional but the other three symbols remain compulsory. The symbols give the following information:

- who made the article
- what is its guaranteed standard of fineness
- the Assay Office at which the article was tested and marked
- the year in which the article was tested and marked

AB Sponsor or maker | Standard Mark | Assay Office Mark | 2006

Sponsor's Mark (formerly known as the Maker's mark)
This shows the person or company responsible for sending the article to the Assay Office. The sponsor may be the manufacturer, retailer, importer, for example.

Standard Marks
These show the standard of fineness - the purity of the precious metal, in parts per thousand.

eg: 

The background shape shows the metal (gold).
The figure shows the article consists of 750 parts of gold by weight to 250 parts of other metals - 75% gold. This is equal to 18 carats (18 parts in every 24), the traditional way of describing gold purity.

Current Gold Standards

9 carat | 14 carat | 18 carat | 22 carat

Current Silver Standards

Sterling | Britannia

Current Platinum Standards

Assay Office Mark
There are now only four British Assay Offices in existence, but there have been more in the past.

Birmingham | London | Edinburgh | Sheffield

Optional Marks
In addition to the Compulsory Marks a sponsor may wish to incorporate any of the traditional marks which have been struck on British articles over the centuries and which have been recognised throughout the world.
For more information on Optional Hallmarks contact your local assay office

Date Letter
This will tell you in which year the article was tested and marked. To see the full series of date letters for Birmingham Assay Office contact The Assay office

Commemorative Marks
Special Marks to commemorate significant national events may also be added if a sponsor chooses. The Millennium Mark to celebrate the year 2000 was very popular and was applied to over 5 million articles of jewellery and silverware. The most recent commemorative mark was to honour the Golden Jubilee of Queen Elizabeth II in 2002. For more information on Commemorative Marks contact your local assay office

Other Marks
Other marks have been used historically for example, the Duty Mark and classic marks such as the figure of Britannia to signify Britannia Silver.

For more information about Commemorative and Other Marks please contact your local assay office

This symbol does not appear in all hallmarks, but if it does, it will tell you that the item was marked during a year when duty was levied on gold and silver by the Crown. Duty marks will appear on items marked at the Birmingham Assay Office from 1784 until 1890.

Convention Marks & Other Acceptable Hallmarks
As an alternative to the traditional UK Hallmarks articles may be marked with a Convention Hallmark which may have been applied by any one of the countries included in the International Convention on Hallmarking.
Following a ruling by the European Court of Justice, the UK is required to accept other national hallmarks. Under the guidelines of the British Hallmarking Council, those national hallmarks deemed equivalent to UK hallmarks can be seen by clicking here

If you wish to identify an early hallmark, or just learn more about historic hallmarks, please visit our Early Silver Hallmarks Database contact your local assay office.

In recent years the price of precious metal has achieved record highs, hence the subsequent buying in of metal by bullion dealers and retailers.

When buying scrap precious metal any buyer must be aware of the ever present threat of fraudulent and heavily plated pieces, therefore it is essential to test everything, double check even if it is hallmarked. With competition in this area growing fiercer, profit margins are tightening and ergo keeping errors to a minimum is essential. A selection of tools is always available. See the associated products below to view our full range of equipment, tools and accessories to ensure 100% confidence when giving this service.

TESTING WITH...GOLD, SILVER, PLATINUM, PALLADIUM TESTERS

SIMPLE TESTS

Before you start, look at the item. And if you can't see clearly, buy an eyeglass, loupe, magnifier, it will be the best 'tester' you ever own. All modern gold, silver and platinum items made in the U.K. or imported into the U.K. should be hallmarked.

Wall charts explaining hallmarks are shown (by law) wherever precious metals are bought or sold, familiarize yourself with these marks, it is as important as being familiar with coins. Forged hallmarks (as with forged coins) exist but are rare, possibly because the authorities go to lengths to track down forgers, with a maximum penalty of seven years in jail. A Bradbury Hallmark Book (code C5784) is also essential aid to help you identify when the item was manufactured which assay office it has been hallmarked from, how old the piece is and the manufactures' own Hallmark emblem thus identifying who made the piece.

No hallmark? Then start testing! The first two tests do not require acids.

Firstly, use a good magnet, gold, silver, platinum and palladium are not magnetic. So if it's magnetic it can't be gold or silver. Of course, if it's not magnetic it doesn't prove anything.

Secondly, check the hardness or malleability of the item. Precious metals are soft, large and thin; gold items (especially if made of high-carat gold) bend easily in and out of shape. Also, before testing the item you will have to file, cut or saw into the surface we supply a variety of tools to cater for this operation, see the links below (otherwise you will merely test the surface plating). This is a good test in itself, you will soon see how easy it is to file gold, silver, platinum and palladium whereas the steel file will 'bounce off' an item made steel - no need to test any further.

THE ACID TEST

You've tried all of the above, you may have your suspicions, but now you need absolute proof: the acid test.

The most popular testers are manufactured by Quickest, and are branded Quickest and Troytest. They comprise small bottles of acid in a strong wooden box, the QUICKTEST-3 (Code T20294) tests for gold (all carats) and silver, the Troytest models have extra bottles for distinguishing between white gold, steel and platinum, or for testing high-zinc /8ct gold.

Quickest and Troytest Acid testing bottles are available separately please see the listing below.

Choose a place on the item that is not normally seen, determine if you need to file, grind or cut the piece to be tested.

Here are some hint and tips about where to file, cut, grind, etc:

Rings – inside

Chains – never file or test the clasps as these are more likely to be precious when the chain may not be.

Bangles – this can be a tricky one as if you have a heavy 22ct bangle it may be hollow and filled with lead, copper, sand or steel. It is advisable to cut or grind this type of item.

Bracelets - never file or test the clasps as these are more likely to be precious when the bracelet may not be.

Pendants- on the back

Earrings – be careful of hooped earrings as they may be hollow and filled with copper/steel wire, you may have to cut or grind deep into the metal.

Do this firmly but only over a very small area. This is to get past any plating, because if the item is gold plated then the surface is gold and will test as such. Now put a tiny spot of acid on the filed area of the item (*read the instructions before applying the acid!*). The acid will change colour, and that tells you whether the item is gold or silver and also the purity.

The acids are designed to test to the nearest purity (carat) common purities used in jewellery would be 9ct, 14ct (or 15ct), 18ct and 22ct. The same tester will test for silver, giving a very clear reading on Sterling (.925) and a less clear reading on 'low-grade' (.800) silver.

FAQs

Q. Do they work?
A. Yes. We've been manufacturing and selling the Quicktest testers since 1986 and the Troytest testers since 2008, and mankind has been using the acid test for hundreds of years.

Q. Do I put the acid on the filings/grinding dust that have been taken off with the needle file/grinder?
A. No, you put the acid on the actual item.

Q. Do I HAVE to file, cut or grind the item?
A. Yes. There is no way of knowing if the item is thickly plated unless you file the surface to test underneath, so if you can't file grind it you can not test it.

Q. Does the acid cause any damage?
A. You must file/grind it in a place where it won't show. If you can't file/grind it you can't test it. On 9ct (usually) and on 14ct/15ct (sometimes) it leaves a dull stain. This can be polished off with a Selvyt polishing cloth and any Hagerty treatment cleaner.

Q. Is it easy to use?
A. You need to handle acids with great care, you do need to spend a few minutes practicing, but the instructions are very clear.

Q. I am colour-blind, how will I see the colour-change of the acid?
A. I'm red-green colour-blind and listed below are special instructions explaining what the "colour change" looks like, the acids *do not* require you to see the difference between green, brown and grey! Total colour-blindness is extremely rare and is associated with more serious eye conditions (if you think you are totally colour blind, see your optician).

Q. Will it test all colours of gold?
A. Yes.

Q. Will it also test for silver?
A. Yes.

Q. Will it test platinum?
A. The TROYTEST-4 KIT tester has an extra bottle for Platinum, but this must be used with the 14-24ct acid, and, unlike the other tests the test for platinum is a 'negative' test, if there is no colour-change then the metal is *probably* platinum.

T9245

Using the Mizar Electronic precious tester

The method is as follows.

Clean a small area of the item with the eraser (a simple pencil-rubber), fill the 'well' (a hollow in the machine) with 'activator fluid' (acid), attach part of the item to the crocodile clip, then dip another part of the item very carefully into the fluid without it touching the sides of the 'well'. Lights indicate the purity (carat).

Questions concerning electronic testers...

Q. Are they easy to use?
A. If you suspect the item might be heavily gold plated you must varnish a small area of the item, file through the varnish (and into the item), put the acid over the varnish/filed area, test it, clean everything up thoroughly, test it again on a non-varnished/non-filed area, then compare the two readings, a laborious but often necessary process. After each test you must meticulously clean out the 'well' (the indentation you fill with acid) otherwise the acid will corrode and destroy the machine.

Q. How do you know whether to test just the surface or test it for plating?
A. You don't. That's why you're testing it.

Q. Does it cause any damage?
A. You must file, grind or cut it in a place where it won't show. If you can't file, grind or cut it you can't test it. The activator fluid is acid and will stain low-carat gold just the same as the traditional acid test (because the activator fluid is acid), you need to polish the stain off with a selvyt cloth.

Q. Will it test all colours of gold?
A. Will test yellow or white gold.

Q. Will it also test for silver?
A. No.

Q. Will it test platinum?
A. No.

Q. Is it as accurate as the traditional acid test?
A. It will indicate 9ct, 10ct, 12ct, 14ct, 16ct, 18ct, 20ct, 22ct or 24ct. Whilst the machine is more specific than the acid test, especially when considering the 14-24ct bottle, please be aware that the machine maybe rounding the carat up or down, user discretion is required.

* There is an additional section we had here regarding the Assay Office and what is a Hallmark, which we've put underneath the links, see if you think is relevant for us. Maybe to put in with the PDF information, after a second opinion…

TROYTEST & QUICKTEST PRECIOUS METAL TESTERS

Terminology: throughout this website the term METAL is used in its chemical sense, not in the colloquial sense (still used by some jewellers) of "NOT GOLD".

WHAT IS THE DIFFERENCE BETWEEN THE MODELS?

All sets are supplied in strong wooden boxes in which are the bottles and accessories. The wooden box is packed in a sturdy cardboard outer box.

Quicktest 3

The Quicktest 3 tests for all carats of gold and also silver

This is the 'standard' set for testing gold and silver

Accessories: steel file, magnet, instructions (and summary of instructions fixed to lid)

Troy test 4

The Troy test 4-Bottle set is the same as the Quicktest-3, but with a fourth bottle for distinguishing 18ct white gold from steel, the implication being that if it is neither, it's probably platinum. But this (fourth) bottle has to be used in conjunction with 14-24ct bottle, so it can't be used as a 'platinum test' on its own.

Accessories: instructions, indicator disc, polishing paper, magnet, sample of copper.

Up until 2008 this set was named the TROYTEST MK V.

Troy test 5

The Troy test 5-Bottle set is the same as the 4-bottle set, but with an additional bottle for 8ct (quite rare) and also an unusual 9ct mixture (alloy) that contains a lot of zinc and can be confused with non-gold when using the first (9ct) acid...though this is a relatively new alloy so items made of this (typically neck chains) should be hallmarked and therefore not need testing.

Accessories: instructions, indicator disc, polishing paper, magnet, sample of copper

Up until 2008 this set was named the TROYTEST MK VI.

WHAT IS EACH BOTTLE FOR?

The Amber (silver) Bottle

Amber = not silver

Very pale red low grade silver (approx parts per thousand)

Deep red sterling silver (925 parts per thousand)

Name: in the Troy test sets this is known as 'Amber Fluid', in Quicktest set it is known as the 'silver bottle', it is the same fluid.

Appearance: the bottle is labelled AMBER FLUID (silver), the top of the lid has a red dot, and the colour of the fluid is amber.

Purpose: to tell if a white metal is silver, typically .925, though there's a slight reaction on .800

The White (9ct) Bottle

Green / froths = not gold ; dark = 9ct

Name: in the Troy test this is known as 'White Fluid', in the Quicktest set it is known as the "9ct bottle". It is the same fluid.

Appearance: the bottle is labelled WHITE FLUID (9ct), the fluid is clear.

Purpose: to tell if a metal is not gold, or if it is 9ct, or if it is better than 9ct. If it has a higher gold content than 9ct it won't tell you what it is, you must move on to the 14-24ct bottle.

The Blue (14-24ct) Bottle

Dark = 14ct yellow in 3 to 10 seconds = 18ct

Yellow in 10 to 20, seconds = 22ct

Yellow in 40 to 60 seconds = 24ct

Name: In the Troy test sets this is known as 'Blue Fluid'. In the Quicktest set this is known as the "14ct to 22ct bottle" or the "High carat bottle". It is the same fluid.

Appearance: the bottle is labelled BLUE FLUID (14-24ct), the top of the lid has a blue dot, the fluid varies from light yellow to deep yellow.

Purpose: tests for 14 to 24ct. It is also used in combination with the GREEN fluid to distinguish WHITE gold from steel and platinum.

Tip: this fluid is to test from 14 to 24ct having first used the 9ct fluid to test for 9ct / non-gold.

The Green (platinum) Bottle

Name: Green fluid (Troy test sets only)

Appearance: the bottle is labelled GREEN FLUID, the top of the lid has a green dot, the fluid is clear.

Purpose: to distinguish 18ct WHITE gold from stainless steel, the implication being that if it is neither, it MIGHT be platinum (unlike the other tests, this is not a 'positive' test). Most people call this the 'Platinum' bottle. At the same time (whilst distinguishing white gold from steel or platinum) it will tell you if the metal is 14ct or 18ct. HOWEVER, all these tests must be done in conjunction with the BLUE fluid, this (Green) bottle cannot be used on its own. None of this is necessary for testing yellow metals; this is only to distinguish WHITE gold from steel or platinum.

TIP: if the metal is magnetic or if, when you file the item, you can feel that the metal is hard (as hard as the steel file) - it cannot possibly be gold or silver or platinum, there is no need to use acid. (But being magnetic does not mean it is steel, some steel is not magnetic).

The Clear (high-zinc 9ct) Bottle

Name: Clear Fluid or Base Fluid (Troy test sets only)

Appearance: the bottle is labelled CLEAR FLUID (8-9ct), the top of the bottle cap has a brown dot, the fluid is clear.

Purpose: to distinguish a particular 9ct alloy that contains a high level of zinc from 'standard' 9ct, and at the same time to give an indication of very low-grade gold such as 8ct.

Tip: this is not an easy fluid to use and should not be used in place of the standard 9ct bottle. Also, since the high-zinc alloy is quite recent, all items should be hallmarked, so test the hallmark link, check that the remainder of the item has the same reaction, if in doubt

check against a piece of copper, only if there is still doubt need you use this bottle.

HINTS AND TIPS

When first learning to use the acids check the reaction times against pieces of gold of known purity, any hallmarked items will suffice. This should also be done to check the strength of the acids if you haven't used them for a few months. When checking against hallmarked items remember that a hallmark guarantees the purity to be at least the standard stated it could be slightly higher.

Learn to recognise British hallmarks and also the marks of the Hallmarking Convention (used by 16 European countries).

Always file, grind and/or cut the item ware necessary (you apply the acid to the filed area of the item) - otherwise if the item is plated, you will merely test the plating, and that will read as 'gold' or 'silver'. Even if you are certain it isn't plated, clean the area to be tested - this is because you are observing a colour-change in the acid, and you will not be able to see this against a background of dirt.

To test high carat purity (14 to 24ct) very accurately use a scrap British gold coin (which is exactly 916 parts per thousand): place acid on both coin and unknown gold and compare reaction times (i.e. - is the reaction on the test-item very slightly slower or very slightly faster than on the coin?)

To see what is meant by the 9ct acid 'fizzing spectacularly' on non-gold' try it on a piece of copper, this is quite unlike the reaction when it turns dark then greenish, then slowly bubbles on 9ct (especially when the acid is new).

Always start with the 9ct bottle, this is most important. This is because the 14-24ct bottle will give similar results on 9ct as it does on 14ct (and the same when used in combination with the Green fluid for testing white gold and platinum) - in other words, the results will be confusing unless you start with the 9ct bottle.
...however...if the metal is white you may wish to start with the SILVER bottle instead. Usually you will know whether to test for gold or for silver, a candlestick or tray will not be gold or platinum, an intricately-made antique-looking ring with a probable diamond is not likely to be silver. But if there is doubt, start with the SILVER bottle when testing white metal.

Gold of 22 to 24ct is always yellow, lower-carat gold can be yellow, red, pink or white; silver and platinum are always white,

Gold, silver and platinum are not magnetic. A magnet is not; however, a test for steel since not all steel is magnetic.

Gold, silver and platinum are soft compared with steel, you will notice the moment you try to file it. Similarly, lead is so soft that it instantly clogs the file (and can be cut with a penknife). Gold, silver and platinum are heavy (as is lead), aluminium is noticeably lightweight.

Another method of testing with acid uses a streak board (touch stone). This is a piece of black ceramic or fine slate across which the gold is drawn so that it leaves behind a gold coloured streak. The test item and two or more items of known purity are each streaked horizontally across the board. The acid is then placed vertically across all the streaks at once. The rate at which the streaks dissolve is then observed: if the test streak fades at the same rate as one of the known samples then the two are of the same purity (carat). The test item must be filed first in order to remove any surface plating, either with a steel file or by rubbing vigorously on the touch-stone first (then wash and dry the touch-stone before carrying out the test). Although our sets are designed to be easier than this (you simply observe the reaction of the acid on the metal) you can use a touch stone if you wish.

LIMITATIONS

When testing sit down at a firm table with a good light and a selection of gold items and test two or three items of each carat so that you get used to the readings. And before you open a bottle have a tissue ready to catch any drops of acid.

Your hand must be steady enough to place a drop of acid on a tiny area you have filed, and your eyesight must be good enough to see the reaction. If this is not possible there is no way you will be able to use acid. If you need an eyeglass to see the reaction, get one before you start.

Acid is not suitable for testing gold dust (the dust soaks the acid up before the reaction can be noted). Similarly, gold melted by amateurs can emerge very impure and porous and cannot be tested.

Rock containing gold is also problematic; if it's alluvial and you can actually see nuggets of gold sticking out, hit it with a hammer and hope they come off cleanly. If you have flecks of gold in the rock the only way to get the gold out would be to crush the rock, dissolve the gold out in cyanide, then reclaim the gold from solution - in other words, forget it,

SUMMARY OF SAFETY INFORMATION

All the fluids are toxic and corrosive and should be treated with extreme care

Do not breathe fumes

Avoid skin contact. In the event of skin contact, wash immediately with plenty of water

In case of eye contact, wash with plenty of water and seek medical advice

Keep out of reach of children

In case of spillage, flood with plenty of water

Emergency? Go to COSHH data

HOW TO USE THE BOTTLES
and
HOW TO DISPOSE OF OLD ACID (and how to transfer acid)

Ensure you have a tissue ready before you start, you will need to mop up spots of acid. A free tissue and leaflet is provided with each refill bottle and with each set.

Remove outer tape if present, and also the white shrink seal underneath (sometimes this crumbles away with the tape). The cap is tamper-proof, a plastic ring which will break the first time the cap is removed. To open, push down and twist to the left to release, then gently unscrew. This is he same as childproof caps on medicine bottles.

When opening the bottle carefully mop up, with the tissue, any acid on the outside of the nozzle.

To apply, turn the bottle upside down, gently squeeze and watch the acid slowly move down the nozzle. If you can't see this, stop, find your reading glasses or a magnifier, start again. Let a blob of acid form on the outside of the nozzle and touch it on the metal. Do not squeeze so hard that you squirt acid! Have a tissue ready to catch any drops that spill.

After each use, mop up any spots of acid from the outside of the nozzle (the 18ct / Blue Fluid always gets onto the outside of the nozzle). Have the tissue ready.

When replacing the cap, press it downwards as you tighten it (you will feel it getting tighter) otherwise it will leak.

Each fluid will last between one and two years, the date of manufacture is printed on the bottle label.

If you are still using the old glass bottles (these were used instead of the plastic bottles up to December 2007) and you want to transfer the acid, do this in a sink so that you can turn the tap on and wash any spills. Keep your face well away from any fumes that come out of the bottles, and take great care not to splash.

If you have old PLASTIC acid bottles, destroy any remaining acid as follows:
Go to a sink, turn on the taps. Gently squeeze out any remaining acid then rinse it out like this:

Squeeze the empty bottle, tip the end into the flowing water, let go, clean water will be sucked into the bottle, squeeze it out into the flowing water. Do this or three or four times to ensure no acid remains. Now gently wash out the lid (taking care not to splash). The bottle is now clean and can be thrown away.

If you have old GLASS acid bottles, destroy any remaining acid as follows:
[These bottles were in use up to December 2007]

Go to a sink, turn the taps on, gently pour any remaining acid into the flowing water, gently wash out the bottle, gently wash out the cap, take care not to splash. All this is safe, this

how acid is destroyed in a laboratory.

JUST HOW DANGEROUS ARE THE ACIDS?

Here are four short 'case histories' which will, we hope, put the danger in perspective.

The Case of the Stained Hand

A lady called to say she had spilt some acid on her hand a few days previously. She said, "It's stained my hand yellow and I've tried everything to wash it off and my hand is still yellow, what should I use to clean it?" She was horrified to learn that the 'yellow stain' was, in fact, a chemical burn and was not going to 'wash off'. But she was relieved to hear that the skin would grow back over the next few weeks.

Conclusion

If you do have an accident with the acid, don't panic, keep calm and wash the acid off under the tap. Many jewellers continually spill tiny drops on their hands and their fingers are always stained yellow. If you are careful there is no reason to ever spill drops of acid. If you manage to squirt acid over your skin and do not wash it (under a tap for about five minutes) you may wish to seek medical advice.

The Case of the Child

A distraught father telephoned. He had been using the acid and, against all the warnings, had had left the cap off, had left it within reach of a three-year-old, and had then left the room. The child spilt the acid down her leg, the parents did not follow the safety precautions, did not wash the acid off, and by the time the child arrived at hospital the acid had burnt down to the bone, the child needed major surgery and will be scarred for life.

Conclusion

Treat the acid as you would any other household chemical (bleach, ammonia etc):
KEEP IT AWAY FROM CHILDREN and if there is an accident, follow the safety precautions.

The Case of the Sudden Illness

A man telephoned to say that he had used the acid, had accidentally sniffed some of the fumes, and a few hours later he felt sick and dizzy. He went to his G.P. who said that it was most unlikely that his symptoms had anything to do with the acid.

Conclusion

Regarding sniffing acid: it is not to be advised, and certainly not on a regular basis, it is not good for the lungs. However, don't panic if you accidentally sniff it just very occasionally, there really is no need to rush to the doctor. Jewellers who have various bottles, old an new, will often sort them by deliberately sniffing the fumes, if it makes them cough and splutter it's good - it's a fresh bottle...but this is not to be advised, for instance regular sniffing Blue Fluid can cause hydrochloric acid to accumulate in the lungs and over a long period that will cause medical problems. If you are storing dozens or hundreds of bottles (e.g. for distribution within a large company), keep them in a well-ventilated area well away from staff.

If you don't feel well you might be ill, quite irrespective of the acid, so please do whatever you usually do when you feel ill.

One word of caution: if you work with other chemicals that also produce fumes, especially if you don't have adequate ventilation, it is possible that the combination of fumes could make you ill.

The Case of the Eye

A customer telephoned to say that his friend might have got some acid in his eye. We asked when this happened and he said a few minutes ago; we asked where the friend was and he said, standing right here; we asked how sore the eye felt and he asked his friend and his friend said very sore; we gave the official advice which is to hold the eye open under a running tap for at least ten minutes; he asked if he should seek medical advice and (since he had asked) we said yes - we had to assume he had got acid in his eye, we couldn't possibly tell him, "It's probably nothing" when we had no way of knowing.

Conclusion

Please be aware of two extremes. If the person is screaming with pain as their eye dissolves into their brain, do not telephone us for advice, get that eye forced open under a running tap and dial 999. At the other extreme, if you think you may have had some acid on your finger and rubbed your eye but really don't know if you've rubbed acid or dirt (note how black your hands become from dirt when handle old jewellery) - keep calm, the eye 'feeling irritable' does not constitute a major injury, you will KNOW if you have acid in your eye!! - give it a wash and see how you feel in a few minutes.

Incidentally, if you wash yourself in icy cold water, the cold will make the skin go completely numb, so do not panic, the feeling will come back when the skin warms.

COSHH DATA

9ct Bottle ('white fluid') Nitric Acid above 50% EEC No. 231-714-2 CAS No. 7697-37-2

18ct Bottle ('blue fluid') Nitric Acid below 50% EEC No. 231-714-2 CAS No. 7697-37-2
Hydrochloric Acid above 50% EEC NO.231-595-7 CAS No. 7647-01-0

Silver Bottle ('amber fluid') Nitric Acid above 14.5% EEC No. 231-714-2

Chromium (VI) oxide below 12.2% EEC No. 215-607-8

HAZARDS IDENTIFICATION Toxic if swallowed. Causes severe burns.

FIRE FIGHTING Explosive with combustible material. May evolve toxic fumes in fire.

FIRST AID MEASURES. **Eye contact**: irrigate thoroughly with water for at least 10mns and obtain medical attention. **Skin contact:** drench skin thoroughly with water. Remove contaminated clothing 1. Unless contact has been slight, obtain medical attention.2 **Ingestion:** wash out mouth thoroughly with water, give plenty of water to drink. Obtain medical attention.

HANDLING AND STORAGE Store at room temperature (below 15? recommended). Keep well closed and protected from direct sunlight and moisture. Store away from combustible materials.

TOXOLOGICAL INFORMATION Strongly corrosive substance. After skin contact - burns. After eye contact - risk of blindness. After inhalation of vapours - coughing, dyspnoea. Inhalation may lead to the formation of oedemas in the respiratory tract. After ingestion - tissue damage (mouth, oesophagus, gastrointestinal tract), strong pain (risk of perforation), bloody vomiting, death.3

SUMMARY OF SAFETY INFORMATION

All the fluids are toxic and corrosive and should be treated with extreme care

Do not breathe fumes

Avoid skin contact. In the event of skin contact, wash immediately with plenty of water

In case of eye contact, wash with plenty of water and seek medical advice

Keep out of reach of children

In case of spillage, flood with plenty of water