Florida Department of
Environmental Protection
Southwest District
Telephone: 813-632-7600

Plating and Cyanide

A Near Death Experience

REBECCA FOSTER
FLORIDA DEP SW DISTRICT
MAY 11, 2011

You've Been Warned.

Regency Artistic Metal Refinishing

What was at the Facility

- Conditionally Exempt
- Copper, Nickel, Silver and Brass Plating
- Plating baths that contained cyanides
- Process baths that contained acids
- Many baths were in small 10 and 15 gallon tote style containers.

Small Rinse and Strip Tanks

Larger Process Tanks

March 2009

March 5, 2009

- Mr. Sutton is found unconscious in his facility
- Fire Department responds
- Fire Rescue is overcome by unknown fumes
- Pasco County HAZMAT responds
- FDEP BER responds
- Adjoining businesses are temporarily evacuated and the area is secured

March 6, 2009

- FDEP-BER returns to the facility
- Hydrogen Cyanide levels inside the building are 2X IDLH
- FDEP-BER secures and monitors the building for the weekend
- USEPA Emergency Response is called to respond to the release

March 8, 2009

- EPA Visits Mr. Sutton in the Hospital
  - Brass brightner (sulfuric and chromic acid) was added to a tank by mistake.
  - Mr. Sutton went to the office to call the company about the chemicals they shipped him.
  - Mr. Sutton claimed that he had ordered a brass plating solution and that was what was supposed to be in the container that he added to his plating tank.

March 9, 2009

Response

- EPA entered the building
- Cyanide Levels 3X IDLH were recorded in the plating area
- The area over the reacting tank exceeded 4X IDLH
- pH of the tank was raised to 4.8.
- First attempt to neutralize the reaction with sodium hydroxide failed

Second EPA Entry Team

Response Cont.

- A third entry team was sent into the building to attempt to stop the reaction.
- Second attempt to raise the pH using 90% sodium hydroxide was successful.
- Air monitoring of the building indicated that cyanide levels had fallen to 2-4 ppm.

Fire Rescue Staged as Back-up

That is Not the End

- Mr. Sutton recovered from this accident.
- Mr. Sutton disposed of the waste generated during the incident in September 2009.
- He was unable to pay rent and was evicted from the building he occupied.
- The remaining viable plating solutions were placed into storage.
- Just when we were about to declare these chemicals a waste under speculative accumulation he opened up a new plating facility and takes on a silent partner.

Facility Number Two

Mr. Sutton Setting Up His New Facility

What Happens Next

- Mr. Sutton fails to pay rent.
- An unknown business partner moves all the chemicals and plating baths to an unknown location.
- The Department has no clue where the chemicals are.
- Anonymous complaint is filed that leads us to the business partner and the chemicals.

Facility Number Three

- Complaint is investigated on July 16, 2010.
- Mr. Sutton's business partner "Johnnie Walker" owns and operates an automotive tire and service shop "Fix UR Car".
- 12 drums of plating solution were found at this location.

Johnnie Walker was Told the Following:

- The danger of the chemicals was explained to him.
- The contents of the drums based on the DEP's past dealings with Mr. Sutton was discussed.
- Told that cyanides and acids are suspected.
- Told he would be required to dispose of the plating chemicals (now considered a waste) to a permitted TSD.
- He was required to have a waste determination done on the waste and profile the waste correctly.

THE ENVIRONMENTAL QUALITY COMPANY

EQ FLORIDA • 7202 EAST 8TH AVENUE • TAMPA, FL 33619 • *tel* 813-319-3426 • *fax* 813-628-0842

October 12, 2010

[redacted]

Dear [redacted],

EQ Florida, Inc. (The Environmental Quality Company) is pleased to submit this quotation letter to the Aerial Company for their non-hazardous waste disposal. The scope of work involves the pickup of DOT-shippable drums, and proper disposal of waste.

Supplies	Quantity	Rate	Total
Analysis Metals	2 Samples	$176.80	$353.60
Analysis Cyanides	2 Samples	$221.00	$442.00
Sampling Fee (includes, Supervisor, PPE)	Lump	$500.00	$500.00
Chemist Hourly Rate (portal to portal)	4 est.	$85.00	$340.00
Insurance Surcharge		1.5 %	$24.53

Estimated Project Total: $1,660.13

In the event that the scope of work should change there will be additional charges; these will be quoted separately. This quotation includes transportation and disposal and is contingent upon the waste conforming to the approved profile. All containers must meet D.O.T. requirements. This serves as notice as required by 40 CFR 264.12(b) that EQ Florida, Inc. has the appropriate permits and will accept the approved waste streams.

If your waste is hazardous, a 3% disposal charge will be added to your invoice in accordance with Florida Statute 403.7215(2) requiring this charge on the commercial storage and treatment of hazardous waste. With an established open line of credit with EQ Florida, Inc., terms are net 30 days.

If I can be of any further assistance, please do not hesitate to contact me at (813)319-3429.

Sincerely,

Addie Botkin
Resource Coordinator
The Environmental Quality Company

SAFETY-KLEEN
WASTE MATERIAL PROFILE

PROFILE #: 407 468 10

Customer #: 334 48 76   Analytical Part #:   LOB #: ☐28 ☐26 ☐24 ☐20 ☐19

Sales Name: Chris Carr   Employee #: 437977   Rep Email: Location/Branch #:

A. CUSTOMER INFORMATION

☐ Check if Billing Same

Generator [redacted]   Billing Company

Facility Address (No P.O. Box) [redacted]   Billing Address

City/State/Zip

City/State/Zip [redacted]   Billing Contact

Technical Contact [redacted]   Phone   FAX

Phone [redacted]   FAX   Email

NAICS #   ☐ CESQG ☐ SQG ☑ LQG   EPA ID# [redacted]   State ID#

B. SHIPPING INFORMATION

US DOT Shipping Name

Hazardous Class/Division #   UN/NA #   Packing Group   RQ

Size   Container Type   Quantity   Frequency

C. GENERAL MATERIAL & REGULATORY INFORMATION

Name of Material: Sulfuric Acid / Nickel & Copper

Process Generating the Material: precious metal Recycling

Yes	No		Yes	No	
☐	☑	Regulated or Licensed Radioactive Waste	☐	☑	Contains UHCs/Constituents of Concern: List in section D
☐	☑	Regulated Medical/Infectious Waste	☐	☑	Exempt Waste: If yes, list ref. 40 CFR
☐	☑	Waste Subject to Benzene NESHAP regulations	☐	☑	For Aragonite, MN: Does waste material contain, or is derived from, dioxin-listed wastes with F020-F023 or F027 waste codes?
☐	☑	TSCA Regulated PCB Waste: List PCB level in section D	☐	☑	State Hazardous Waste: List Codes
☐	☑	Regulated Ozone Depleting Substance	☐	☑	EPA Hazardous Waste: List Codes
☐	☑	CERCLA Regulated (Superfund) Waste			Source Code G Form Code W Mgt. Method H

D. MATERIAL COMPOSITION

(Range: Total ≥ or = 100%) or ppm

Sulfuric Acid	1%
Copper	1%
Nickel	1%
Water	97%

☐ MSDS Attached   Total: 100%

E. REACTIVE CHARACTERISTICS

Yes☐ No☑ Oxidizer

Yes☐ No☑ React. Sulfides ____ ppm   Yes☐ No☑ Shock/Explosive

Yes☐ No☑ React. Cyanides ____ ppm   Yes☐ No☑ Polymerizable

Yes☐ No☑ Water/Air (Pyrophoric) React   Yes☐ No☑ Other-Comments

Elemental Constituents (ppm):

☐ No detectable Elements   Sb   As   Ba

Be   Cd   Cr   Pb   Hg

Ni   Se   Ag   Tl   V

Metals Data based on: ☐ TCLP ☐ Total Analysis ☑ Generator Knowledge (as is)

F. PHYSICAL CHARACTERISTICS

Flash Point: ____ °F (If <73°F)   pH Range: ☑ ≤2

☐ 73-<100   ☐ 100-141   ☐ >2-4   ☐ >4-10

☐ 142-<200   ☑ ≥200   ☐ >10-<12.5   ☐ ≥12.5

Phases: 1   % Liquid: 100   Viscosity cps: 50000

% Sludge: 0   % Solid: 0   % Halogens: 0

BTU's/lb: <5000   Specific Gravity: 1.0

G. COMMENTS

Customer Restrictions: ☐ Yes ☑ No

H. GENERATOR'S CERTIFICATION

I hereby certify that I am an authorized agent of the generator, and warrant on behalf of the generator that the information supplied on this form and on any attachments or supplements hereto is complete and accurate, and that all known or suspected hazards of the material(s) described herein have been disclosed. I agree that if the sample test results indicate a discrepancy with any information supplied on this form, that either Safety-Kleen or the generator may initiate further testing and evaluation in accordance with the terms and conditions of the contract between Safety-Kleen and the generator and that this [redacted]

Generator Signature: X [redacted]   Printed Name and Title: X [redacted]   Date: 10/13/10

Rev. 02/2005

Improper Disposal

- A waste determination was never done. Mr. Walker claimed generator knowledge.
- The wastes were shipped and manifested as dilute acids with a D002 waste code.
- The drums were intercepted at the Safety Kleen facility in Tampa.
- The drums were removed from the truck and held at the Tampa facility per DEP request.

Drums Isolated at Safety Kleen

All the Same Chemical Solutions?

Important Lessons Learned

1. Do not mix incompatible chemicals.

2. Always read labels before mixing chemicals. Even if you think you know what you have.

3. If an unexpected reaction occurs GET OUT! GET ALL THE WAY OUT! Then call the appropriate emergency response personnel.

Important Lessons Learned (cont)

4. Don’t get complacent. These are dangerous chemicals and should be respected.

5. Always accurately profile and do hazardous waste determinations on your wastes prior to disposal.

6. Don’t assume the generator will do the right thing and don’t close your case too soon.

The End