Lockheed Martin MS2 Tactical Systems
P.O. Box 6000
Clearwater, FL 33758-6000

LOCKHEED MARTIN

February 21, 2005

Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Attention: Mr. Quid Noor
Department Engineer

Subject: Revision to Operating Air Permit - Appendix D, Table 3 of the application
Lockheed Martin Corporation
FDEP File No. 1030174-007-AF
3655 Tampa Road
Oldsmar, Florida 34677-6307

Dear Mr. Noor:

The purpose of this letter is to inform the Division that an update to the circuit board assembly process equipment list (Appendix D, Table 3 of the application) has been revised as follows:

- Appendix D of the Application - Table 3 Circuit Board Assembly Process Equipment List

Unit AP-19 — New Insignificant Source:

Unit Name:	Batch Cleaner
Model:	SMT-800ZD
Manufacturer:	Aqueous Technologies
Serno:	7232

Unit AP- 20 — New Insignificant Source:

Unit Name:	Evaporator
Model:	TP-36-SS
Manufacturer:	Ingersoll-Rand
Serno:	104250-7

Reason for change: Improvement to manufacturing process which may reduce the need for other equipment (AP-07) from being used. Ultimately reducing the amount of VOCs.

A copy of Appendix D, Table 3 of the application, the technical specifications of the SMT-800 Series equipment, the MSDS for Vigon A200 and a brief summary of this new process have been included for your review. Should either agency require additional information, or should you have any questions regarding the information provided, please feel free to contact me at your earliest convenience. There are no anticipated emissions increases.

Sincerely,

Jonathan Poggi
Regulatory Compliance Analyst – Senior

Cc: Mr. Gary Robbins, Pinellas County Department of Environmental Management

APPENDIX D
LOCKHEED MARTIN CORPORATION
OLDSMAR, FLORIDA
DELTA PROJECT B096-030

TABLE 3
CIRCUIT BOARD ASSEMBLY PROCESS EQUIPMENT LIST

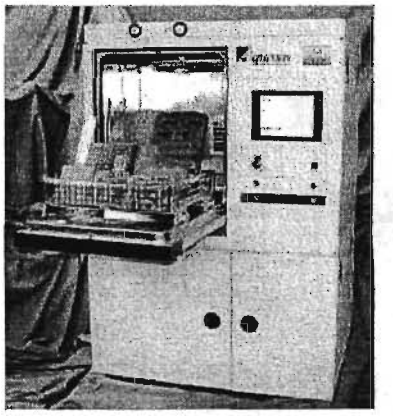
UNIT ID #	UNIT NAME	MANUFACTURER	SERIAL NUMBER	REMARKS
AP-01	DELETED	DELETED	DELETED	DELETED
AP-02	Solder Oven	Vitronics-Soltec	XN10373A	Insignificant source
AP-03	Delta Solder Wave (Main)	Soltec #6622CC	Ser No: 98C5507101	
AP-04	Solder Oven	Conceptronic #HVC 102	Ser No. #HV9364	Insignificant source
AP-05	Solder Oven	Vitronics (Anitherm)	SMR 1000	Insignificant source
AP-06	Paint Booth (touch-up)	Binks	302016-00000	Exempt from permit
AP-07	Axarel Cleaner (Main)	Detrex Model: SA-24A SPL	Ser No: 73102	
AP-08	Vapor Phase Machine	Centeck Model: CVPSS-1C	Ser No: 300891	Insignificant source
AP-09	Select Coat System	Nordsen	Ser No: BK97GL38009	
AP-10	Integrated Technologies Dip Machine	Integrated Technologies Model #C3001	Ser No: 4-1768	
AP-11	Dip Coating Machine	Lockheed Martin	Asset #300781-00000	
AP-12	Spray Coating Booth (PC)	Lockheed Martin	None	
AP-13	Alcohol Cleaner Booth (PC)	Lockheed Martin	None	
AP-14	RTV-Dip Coating Machine	Lockheed Martin	Asset #300782-00000	
AP-15	RTV - Spray Coating Booth	Lockheed Martin	None	
AP-16	Conformal Coating Spray Machine	Integrated Technologies Portec Model: KB 3326180	Asset #MC3235-1 Ser No: 121913 P963	
AP-17	Conformal Coating/Paint Spray Booth	Airflow Systems, Inc.	Ser No: 1000697	
AP-18	Ultrasonic IPA Tank (HT-2011-IPA)	Blackstone-Ney	B514493-A3B	
AP-19	Batch Cleaner (SMT-800ZD)	Aqueous Technologies	7232	Insignificant Source
AP-20	Evaporator (TP-36-SS)	Ingersoll-Rand	104250-7	Insignificant Source

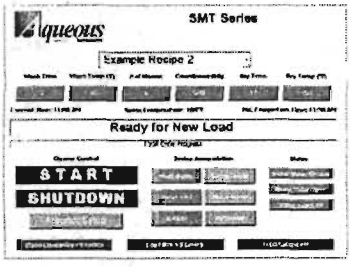
Aqueous Technologies Corporation
9055 Rancho Park Court
Rancho Cucamonga, CA 91730
Ph (909) 944-7771 Fax (909) 944-7775
www.aqueoustech.com sales@aqueoustech.com

SMT800 Series
Aqueous De-Fluxing Systems
80 PSI

Fully Automatic Aqueous Cleaning / De-Fluxing Systems

The SMT-Series aqueous cleaning / de-fluxing systems are the electronic assembly industry's most popular batch-format de-fluxing systems. Designed to provide fully automatic operation, the SMT-Series cleaning systems offer one-touch cleaning, cleanliness testing and drying functions.





Technology: All SMT-Series cleaning systems feature an Intel X-Scale computer controller operating under the highly robust and stable Windows CE operating system. A 10.4" (26.4 cm) touch-screen interface provides for exceptionally intuitive programming. Real-time graphic displays allow an operator to monitor all program functions from one highly visible screen while multi-level password protection prevents unauthorized program changes. Optional features such as multi-language support and SPC data-viewing via a built-in web server make the SMT-Series control system unrivaled.

Cleaning Power: The SMT800-Series cleaning systems provide more cleaning and drying power than any other brand. A powerful 80 PSI spray system directs finely diffused wash solution to the boards. Aqueous Technologies' unique spray system utilizing a patent pending oscillating board rack directs cleaning solution to all areas of the boards, including between and under components. The SMT Series cleaners are designed for fine-pitch, high density SMT assemblies in a lead or lead-free environment.

All SMT-Series cleaning systems provide cleanliness results far exceeding military and IPC cleanliness standards. An on-board cleanliness testing system automatically monitors cleanliness and continues the cleaning cycle until the desired cleanliness level has been achieved. Access to historical cleanliness results is available via the built-in SPC data web server.

Drying Power: The SMT-Series cleaning systems are equipped with the most powerful drying system of any batch-format de-fluxing system. A powerful 1,500 CFM blower directs heated air into the wash/dry chamber. Fast, thorough drying is a hallmark of all SMT-Series cleaners.

Discharge Configurations: The SMT800 Series cleaners are available in three discharge configurations:

LD

SMT800-LD (Low Discharge) The SMT800-LD aqueous cleaning / de-fluxing system is capable of removing all flux residues (Rosin, No-Clean, and Water Soluble). The SMT800-LD is equipped with a built-in wash solution recycler, allowing the wash solution to be filtered and reused. Rinse water is directed to drain. LD-Series cleaners feature separate wash and rinse pumps to eliminate cross-contamination of wash solution and rinse water and to reduce wash solution loss.

ZD

SMT800-ZD (Zero Discharge) The SMT800-ZD aqueous cleaning / de-fluxing system is capable of removing all flux residues (Rosin, No-Clean, and Water Soluble). The SMT800-LD is equipped with a built-in wash solution recycler, allowing the wash solution to be filtered and reused. Spent wash solution and rinse water are directed to an evaporator (included). No water is sent to drain. LD-Series cleaners feature separate wash and rinse pumps to eliminate cross-contamination of wash solution and rinse water and to reduce wash solution loss.


AQ-7 Evaporator

CL

SMT800-CL (Closed-Loop) The SMT800-CL aqueous cleaning / de-fluxing system is capable of removing water-soluble flux residues. The SMT800-CL is equipped with a built-in closed-loop recycler, directing all process water through a filtration and de-ionization system. No water is sent to drain.

Material Safety Data Sheet

Date Printed: 7/8/04

Tradename: Vigon® A200 (Concentrate)
Date Revised: January 09, 2004

1. Chemical Product and Company Identification

Manufacturer / Supplier:
Zestron Corporation
21641 Beaumeade Circle
Ashburn, VA 20147

Emergency Information:
Info-Trac: (800) 535-5053

Product information:
Cleaning agent for high tech cleaning applications.

General Information:
(703) 589-1198

2. Composition / Information on Ingredients

Chemical characterization:
Special blend of alkoxypropanols and amine-compounds.

Hazardous ingredients / Exposure limits:

CAS-No.	Name	%	OSHA PEL	ACGIH TLV
124-68-5	2-amino-2-methyl-propanol	10-20	none established	none established

HMIS ratings:
Health: 0 Flammability: 0 Reactivity: 0 Chronic Health: -

Carcinogenicity: None as regulated by OSHA or listed in NTP or IARC.

3. Physical and Chemical Properties

Appearance and Odor: Liquid, clear and colorless, mild odor.

Freezing-point:	not determined	Boiling point/range:	329 – 414 °F
Vapor pressure:	approx. 3 mbar	Density:	0.94 g/cm³
Solubility in water:	partially water soluble	pH Value (10 g/l):	10.4 – 11.4

Viscosity (20°C): approx. 13.3 cSt

4. Explosion Hazard and Fire Data

Flash point: none to boiling

Ignition temperature: not determined

Explosion limits:
Lower: not determined Upper: not determined

Extinguishing media: Not applicable, product is non-flammable.

Special protective equipment needed: none

5. Stability and Reactivity

Conditions to be avoided: Heating the containers causes increase of bursting hazard.

Substances to be avoided: Strong oxidizing agents.

Hazardous decomposition products: No decomposition up to boiling.

6. First aid

Inhalation: Immediately move to fresh air. If unconscious consult a physician immediately.

Skin contact: Immediately remove contaminated clothing. Wash contaminated areas with mild soap and water.

Eye contact: Flush eye with large amounts of flowing water. Consult a physician.

Ingestion: Do not induce vomiting. Consult a physician.

7. Toxicological Information

Inhalation: Slightly irritant.

Skin Contact: Moderate irritant. Prolonged contact causes degreasing of the skin.

Eye Contact: Moderate irritant.

Ingestion: Swallowing of incidental amounts in unlikely to lead to adverse health effects

8. Handling and Storage

Personal protective equipment / measures:
Wear goggles to protect against splashing. Wear chloroprene or nitrile gloves. Wash hands after use, especially before eating.

Special precautions to be taken in handling:
Supply sufficient ventilation or a local exhaust system. Keep container closed when not in use.

Special precautions to be taken for fire and explosion protection:
Keep liquid away form heat, sparks and flames. Heating may lead to increased pressure and danger of bursting.

Storage:
Store in a cool place. Keep container tightly closed.

Disposal considerations:
After use the material may be classified as hazardous waste depending upon nature of contaminants.

9. Accidental Release Measures

Personal precautions:
Protective eyewear and gloves should be worn.

Environmental protection measures:
Avoid uncontrolled releases into the environment.

Action to take for spills / leaks:
Soak up with liquid binding material (sand, vermiculite, or other absorbent material). In closed rooms supply good ventilation. Use suitable disposal containers.

10. Transport Regulations

No dangerous good. Non regulated.

11. Additional Information

The information contained herein came from sources believed to be reliable. Some of the information contained in the MSDS and the conclusions drawn are from sources other than direct test data of the product itself.

All ingredients used are TSCA listed. None of the ingredients are regulated under SARA Section 313 or 40 CFR 372.

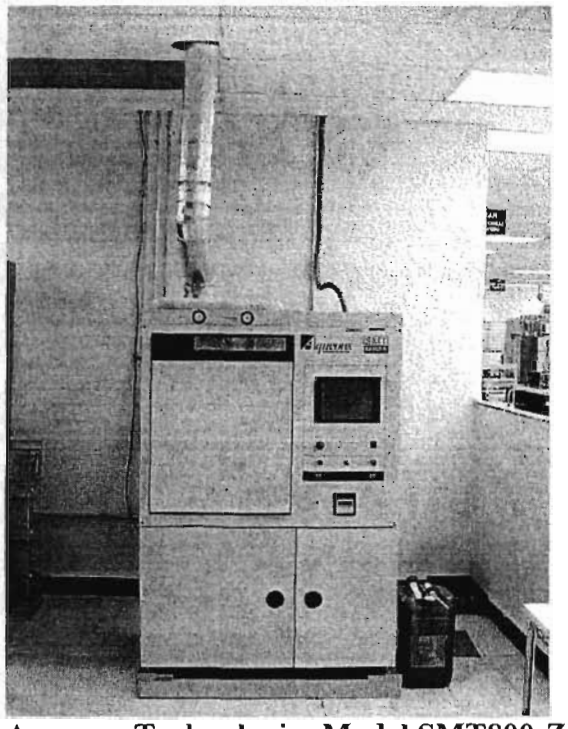
LOCKHEED MARTIN CCA CLEANING PROCESS
AQUEOUS TECHNOLOGIES SMT800-ZD BATCH CLEANER

The Lockheed Martin MS2 manufacturing facility in Oldsmar Florida has purchased a new dishwasher style batch cleaner, Aqueous Technologies Model SMT 800-ZD (www.aqueoustech.com/), that it plans on using to clean production circuit cards commencing Monday February 21st, 2005. This new cleaning process will provide a more efficient process flow and better cleaning results, while at the same time providing environmental benefits such as lower VOC emissions and lower energy consumption than the present process.

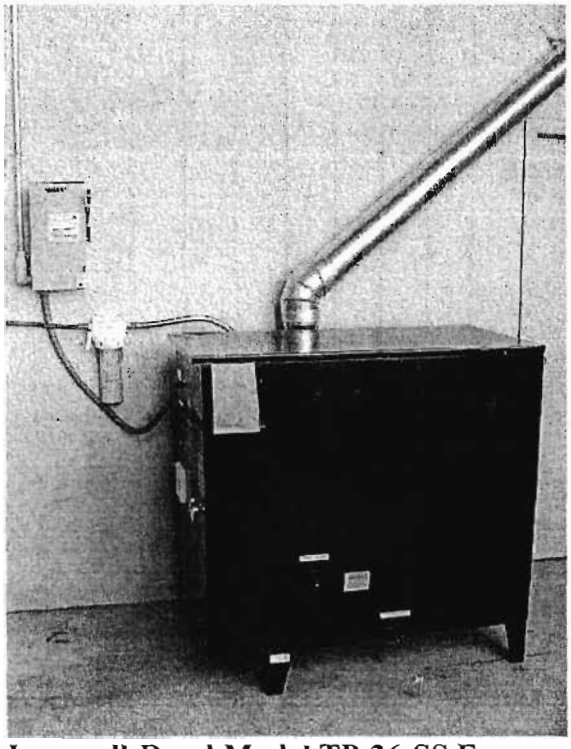
The present cleaning processes will not be replaced with the addition of this new batch cleaner, as the new cleaner cannot support the entire volume of production circuit cards being manufactured within the Oldsmar facility. But it will relieve the volume of circuit cards being cleaned using the standard cleaning processes that have been in place since the early 1990's. Those cleaning processes consist of a pass-thru in-line clean in Axarel32™ hydrocarbon and a final clean in isopropyl alcohol. The new batch cleaning process will be used to replace the isopropyl alcohol wash which is currently used to final clean 200 circuit cards per day. In addition, the batch cleaner may be used in place of the in-line cleaner for the initial cleaning application when production capacity allows for it. Reference the flow chart on the attached page.

The SMD800-ZD batch cleaner has a self-contained 12 gallon wash tank that will spray each loaded circuit card batch for a minimum of 5 minutes with a 125°F +/ 5°F wash solution of 15% Vigon® A200 in deionized water. This wash is a closed loop system that is continuously filtered through a 5 micron filter. The 12 gallon solution is expected to last for approximately 6 weeks before discarding into a hazardous waste drum. The wash cycle is followed by the rinse cycle. Each circuit card batch will receive a minimum 5 rinses of room temperature deionized water at 80 psi, with each rinse sending 1.2 gallons of rinse water directly to an Ingersoll-Rand Model TP-36-SS evaporator. After rinsing is completed, the circuit card batch is force air dried for approximately 5-10 minutes.

Each circuit card batch will consist of approximately 14-16 circuit cards, with approximately 200 circuit cards (13 to 15 batches) to be cleaned each day. Each batch cycle will last approximately 30 minutes, adding up to 7 hours of operation per day. This equates to a maximum of 12 gallons of rinse water to be sent to the evaporator each hour, and a total of approximately 84 gallons each day. The TP-36-SS has the ability to evaporate 12.5 gallons per hour of waste water. The minimal solid waste that accumulates at the bottom of the evaporator will be disposed of as hazardous waste every few months.



Aqueous Technologies Model SMT800-ZD Cleaner
Serial Number 7232



Ingersoll-Rand Model TP-36-SS Evaporator
Serial Number 104250-7