



Thermax RoHS Compliance

Revision 12 (Effective 7/10/07)

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THERMAX'S RoHS POLICY

1. **PRODUCT SCOPE** - This document covers all the products manufactured at Thermax's manufacturing facilities in Nogales, Mexico.
2. **RoHS STATUS OF THERMAX INVENTORY** - Thermax has purged its raw material, factory and distribution center inventory of all nonconforming RoHS products with the exception of a few product types for which RoHS conforming substitutes have not been found. The exceptions are Tensileflex cadmium-chromium high strength copper Alloy 135, cadmium-copper Alloy 162, some PVC constructions and PTFE pigmented tape in red, yellow or orange.
3. **RoHS CERTIFICATION ONLY ON REQUEST** - Even though Thermax has gone through a RoHS conversion process, we cannot certify RoHS compliance unless our customer's order has requested it. RoHS certified orders are specially tested with x-ray fluorescence equipment on incoming raw materials and during inprocess inspection. Orders, which have not requested RoHS certification, have not received these additional testing and assurance steps. Although we would expect orders shipped after 4/30/06 to be compliant (except for paragraph 2 items), they cannot be certified as such unless RoHS was specified on the purchase order.

Some customers, who have received material in the past without a RoHS certification, are now checking their inventory to determine or certify the status of the products received. Thermax can provide this testing, but the cost would be \$600/sample, which is the typical outside cost for an expedited test of this type (See paragraph B.10 for details).

4. **CUSTOMER REQUESTS FOR RoHS IDENTIFICATION** - When a customer request is received to document their shipments as RoHS compliant, Thermax personnel will first review the products involved to assure that they are not on the RoHS exception list. Once it's confirmed that they are RoHS conforming, a specially trained and authorized individual will apply a controlled distribution RoHS stamp to the certificate of compliance for each applicable shipment. If the C of C does not contain the RoHS stamp, Thermax cannot certify that the product is RoHS compliant. We do not currently offer RoHS product printing or reel or box labels.
5. **PACKAGING MATERIALS ARE RoHS COMPLIANT** - Thermax has surveyed its packaging material vendors in order to assure that the products we purchase are also free of the six basic RoHS ingredients. Our survey covered plastic and wooden reels, cardboard boxes, labels, tape and printing ink. Our survey results indicated that these packaging products are RoHS compliant.

6. **CHARGE FOR SPECIAL RoHS DATA REQUESTS** - Some of our customers have requested that we fill out detailed and time consuming questionnaires requesting comprehensive data breakdowns on compliance to the RoHS directives. Some have requested that we participate in the International Material Data System (IMDS) which also requires extremely detailed and time consuming breakdowns of all our product materials. This RoHS policy document has been prepared so that all the required information can be provided without the extra cost of a custom submittal, other than a quantitative breakdown on specific part numbers.

If any customers prefer to have our RoHS information custom prepared per their formats or submitted via the IMDS system, Thermax can quote a cost to accomplish this based on the hours and skill level required. Depending on complexity, costs for special RoHS questionnaires and spreadsheets may vary from \$500 to \$2000 and possibly up to \$5000 for IMDS requests.

With some particularly complex and time consuming requests, Thermax may not have the resources to complete the requested reports and forms and may decline the request and not quote a special price at all.

7. **WEEE COMPLIANCE** - One of the RoHS related documents deals with waste electrical and electronic equipment (WEEE) is applicable to specific product categories which do not include wire and cable products. Since the WEEE regulations do not relate to wire and cable products or packaging material in any way, Thermax cannot provide a compliance statement for it. Thus, requests for WEEE certification for Thermax products will be marked "Not Applicable".

Appendix A: RoHS Requirements, Background and Details

- A.1 **BACKGROUND** – The issuance by the European Union of various directives relating to the Restriction of Certain Hazardous Substances (RoHS) have heightened the sensitivity of all manufacturers as to the use of materials that they purchase and use in their products. This document has been prepared to confirm Thermax' compliance with these documents and to identify any exceptions.

In accordance with these directives, Thermax embarked on a program starting October 2003 to remove heavy metals, brominated flame-retardants and other regulated materials from our products. As our program has evolved, we have continually revised this document in order to keep it current with our progress.

EU Directive 2002/95/EC stated that RoHS requirements would be effective as of 7/1/06. Thermax compliance was achieved earlier, during April 2006. As of 4/30/06, all non-RoHS raw materials were replaced and raw material and finished goods inventories were purged, except for the items noted in paragraph 2.

- A.2. **DISCUSSION OF KEY EU DOCUMENTS** - Each of the key EU documents deals with a different aspect of the RoHS issue. The documents are pertinent to certain product types that do not include Thermax wire and cable products. Thus technically, all of Thermax's products are RoHS compliant by exemption, even if they contain cadmium or other heavy metals. However, it does apply to Thermax indirectly as our affected customers require our conformance so that their products can comply. These documents are being continually revised. The following is a background of the basic document and is not an attempt to give the details of each update as it has been issued:

- A.2.1 **DIRECTIVE 2002/96/EC (WEEE)** - WEEE requires that the manufacturers of a specified range of products bear the financial cost of disposal when the products reach their end of life. The products affected fall into 10 broad groups as listed in Annex IA (Large household appliances, small household appliances, IT and telecommunications, consumer equipment, lighting, electrical tools, toys and leisure products, medical devices, monitoring and control instruments and automatic dispensers). WEEE does not apply to wire and cable products as they are excluded by as a result of not being among the specific product classes that are specified.
- A.2.2 **DIRECTIVE 2000/53/EC (ELV)** - This document is somewhat similar to the WEEE directive, except that it is restricted to vehicles. This "End-of-Life Vehicles" directive makes the vehicle manufacturer financially responsible for the final disposal of a vehicle at its end-of-life
- A.2.3 **DIRECTIVE 2002/95/EC (RoHS)** - This document bans heavy metals, brominated flame retardants and many other chemicals, by updates and revisions, for use in certain equipment. The affected equipment includes all of the 10 WEEE categories except for category 8 (medical devices) and category 10 (monitoring and control instruments).
- A.2.4 **ERA TECHNOLOGY REVIEW OF DIRECTIVE 2002/95/EC, CATEGORIES 8 AND 9** - This document, dated July 2006 and amended 9/19/06, was issued by ERA Technology (Electrical Research Association, Surrey, United Kingdom) at the request of the European Commission, DG Environment. It provides details for equipment categories 8 and 9, which were not included in 2002/95/EC.

One very significant feature is the recommendation that cad-chrome-copper high strength alloy (Alloy 135) be exempted from RoHS cadmium limits until 2012 to give time for a fully equivalent product to be developed (i.e. tables 67 and 72 in the report). Cad-free substitutes already exist, but they are not fully equivalent.

- A.2.5 **EU COUNCIL DIRECTIVE 76/769/EEC** - This directive lists a wide range of substances with applicable limits that can be referenced by other documents and customer specifications. Additional substances and limits are being continually added, such as 2003/11/EC, 2003/36/EE and others.

This directive lists the usage limit for the various regulated substances in regard to specific plastics and insulations. For example, cadmium is limited to 100 ppm (.01%) for use in polyvinyl chloride, polyurethane, low density polyethylene, cellulose acetate, cellulose acetate butyrate, epoxy resins, melamine, urea formaldehyde, unsaturated polyesters, polyethylene terephthalate, polybutylene terephthalate, polystyrene, acrylonitrile methymethacrylate, crosslinked polyethylene and polypropylene. There is no mention of fluorocarbons in this list (neither PTFE, FEP, ETFE, PFA, Halar, Kynar, etc.).

Despite the fact that fluorocarbons are not specifically mentioned, Thermax has modified its products to meet these requirements anyway.

- A.2.6 **EU COUNCIL DIRECTIVE 2003/11/EC (BFR)** - This directive specifically bans the penta and octa forms of PBDE, which are a family of brominated flame-retardants.

- A.2.7 **JOINT INDUSTRY GUIDE (JIG)** - Document JIG-101 entitled Material Composition Declaration for Electronic Products was issued April 2005. It has been worked on for more than three years by member companies of EICTA (Europe), JGPSSI (Japan), EIA (USA) and JEDEC (USA). This coordinated worldwide industry document attempts to standardize the reporting procedure for RoHS compliance and also refers to specific substance limits. In the case of cadmium this specification lists a more severe maximum concentration of 75 ppm vs. the 100 ppm given in the EU documents. Thermax's RoHS compliant products also fully conform to the JIG document.

- A.2.8 **CALIFORNIA PROPOSITION 65** - This document is a consent judgement for wire and cable manufacturers (San Francisco Superior Court Nos. 312962 and 320342) and lists maximum concentration levels of a variety of substances, similar to the documents above. It specifies a 300 ppm max concentration of lead as opposed to the RoHS 1000 ppm value.

Appendix B: Details and Discussion of Thermax's RoHS Status

- B.1 **THERMAX IS RoHS COMPLIANT**- Except for the lead in standard PVC and the cadmium in cadmium high strength alloys and certain purchased PTFE tapes, Thermax is RoHS compliant. This includes all the RoHS documents, California Proposition 65 and all equivalent documents. There are over 1500 substances regulated by international, federal, state/provincial or local government units. However, most attention has been focused on the six materials identified in the original EU Directive 2002/95/EC. Thermax's RoHS compliance is demonstrated by the following discussing of the six key materials:
- B.1.1 **Mercury (Hg)** - Not present in Thermax products (RoHS max is 1000 ppm).
- B.1.2 Cadmium (Cd)** - **All Thermax manufactured products are cadmium RoHS compliant per the following dates, with the exception of the items indicated in paragraph 2. Per paragraph A.2.4, Alloy 135 may be approved for RoHS exemption:**
- | | |
|----------|---|
| 12/08/04 | These melt extrudable products: yellow FEP and all colors of ETFE, PFA, Hytrel, Santoprene, Estane and special-request lead-free PVC. Also, all extruded PTFE (except for abrasion resistant) and purchased PTFE tapes (except for red, yellow and orange). Also, all Thermax manufactured seamless PTFE tapes. |
| 03/01/05 | Orange and yellow pigmented extruded PTFE. |
| 06/06/05 | Red pigmented extruded PTFE |
| 08/01/05 | All abrasion resistant filled extruded PTFE insulations and all striping inks for PTFE, FEP and ETFE except for brown stripes over PTFE. |
| 03/09/06 | Brown striping inks for PTFE. |
| 04/21/06 | Red and orange FEP |
- B.1.3 **Lead (Pb)** - Present in standard PVC formulations (14,000 ppm per product weight) but not in Thermax' lead-free formulations. The RoHS max is 1000 ppm.
- B.1.4 **Chromium VI (Hexavalent Cr)** - Not present in Thermax products. Some conductors, such as stainless steel, contain Chromium III which is not a restricted material. The RoHS max for chromium VI is 1000 ppm.
- B.1.5 **PBB** - Not present in Thermax products. The RoHS max is 1000 ppm.
- B.1.6 **PBDE AND TBBP-A** - Not present in Thermax products. This includes pentabromodiphenylether, octabromodiphenyl ether and decabromodiphenyl ether. The RoHS max is 1000 ppm. These three commercially available types of polybrominated diphenyl ether (PBDE) are also referred to as PentaBDE, OctaBDE and DecaBDE. PentaBDE and OctaBDE are covered by the RoHS materials restrictions whereas DecaBDE was recently declared as exempt. Concern has also been expressed about TBBP-A (tetrabromobisphenol A), even though it is not a RoHS restricted material. TBBP-A is also not present in Thermax products.

- B.2 **ALLOY 135/CAD COPPER ALLOYS** - Due to their high cadmium content, Alloy 135 cad-chrome copper and cad-copper alloys such as Alloy 162 have been considered to be not RoHS compliant either as bare or insulated conductors. **However, based on the ERA Technology report (see paragraph A.2.4) Alloy 135 cad-chrome copper may be exempted from RoHS until 2012.** While alternate alloys have been introduced, such as Percon 24, CC78 and others, none of them have yet been able to match all its characteristics. The extension to 2012 is intended to give time to find a cad-free full equivalent.

The performance of these cadmium containing copper alloys is unique and outstanding, which has retarded the use of lower performing cad-free substitutes. The fear is that these products are usually used in critical safety circuits where compromise is not normally allowed. Thus, the current potential danger of the cadmium constituent may be less than the safety danger of using a substitute.

For those that require the alternatives, candidates are available with modified properties and pricing.

The maximum cadmium level per RoHS documents is 100 ppm. Alloy 135 contains 4000 ppm of cadmium and Alloy 162 contains 10,000 ppm. The cadmium level content calculated on the weight of a finished insulated product is typically 2500 ppm for Alloy 135 and 6200 ppm for Alloy 162 - still well beyond the RoHS cadmium limits.

- B.3 **PIGMENTED PURCHASED PTFE TAPE** - Thermax purchases unsintered PTFE tape for use in tape wrapped jackets, typically used on high temperature multiconductor cables. Despite extensive efforts on our part, we have not yet been able to find a suitable tape vendor who has been able to meet the max cadmium limits on their red, yellow and orange tapes. We follow-up with these vendors at frequent intervals. If cad-free versions are found and qualified, we will issue a revision to this document and remove them from the exception list.
- B.4 **DISCUSSION OF TRACE AMOUNTS** - When we specify that a material is lead-free or cad-free in the context of a RoHS discussion, it means that the substance being discussed is within the RoHS limits. Thus, in a RoHS context, products that contain less than 100 ppm of cadmium are referred to as "cad-free" and products that contain less than 1000 ppm of lead are referred to as "lead-free". For example, uninsulated silver plated copper conductors may contain 7 ppm of lead due to trace amounts in the silver plating. For RoHS purposes, they are still referred to as "lead-free".

There are some regulated materials which are not purposely in any of our formulations or vendor formulations, but which may exist in the air or water supply as contaminants and which could conceivably be present in minute quantities. As we do not specify these materials, we do not test for their presence. The quantities of regulated materials that we list for our products are based on the documented formulation.

- B.5 **NO WARRANTY EXPRESSED OR IMPLIED** - The Product Disclosure information provided in this document is based upon information obtained from sources which Thermax believes are reliable; however, the information is provided without any representation of warranty, expressed or implied, regarding accuracy or correctness

The information provided herein and the identification of materials listed as reportable or restricted is correct to the best of Thermax's knowledge, information and belief at the date of each revision. The information is provided as a general guide for the safe handling, storage and any other operation of the product itself or the one that it becomes a part of. This document is not to be considered a warranty or quality specification. Regulatory information is for guidance purposed only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.

- B.6 **DEFINITION OF PPM** - The term "ppm" as used in this document refers to "parts per million by weight". For comparison, 10% is 100,000 ppm; 1% = 10,000 ppm; 0.1% = 1,000 ppm and 0.01% = 100 ppm. Thus, the RoHS max cadmium level of 100 ppm is the same as 0.01% max, etc. The wire and cable products manufactured by Thermax are considered homogenous products and the ppm values refer to the completed wire and/or cable.
- B.7 **THERMAX COMPLIANCE SPECIFICS** - Some of the questionnaires we receive specify particular products and ask if they are RoHS compliant. Other questionnaires include lengthy tables of chemicals and request that we check each chemical as to whether it is present or not. We have included a typical table of these materials and have indicated their RoHS status and nominal ppm in our products.

No.	MATERIAL	RoHS COMPLIANT?	ALL PRODUCTS PPM	PRODUCTS WITH HIGHER VALUES	PPM
1.	Acetone	YES	<1	NONE	N/A
2.	Aliphatic/Aromatic Hydro-C Liquids	YES	<1	NONE	N/A
3.	Anthracene	YES	<1	NONE	N/A
4.	Antimony and its compounds	YES	<10	STANDARD PVC	<700
5.	Antimony and its compounds	YES	<10	LEAD FREE PVC	<700
6.	Aromatic amines	YES	<10	NONE	N/A
7.	Arsenic and its compounds	YES	<65	NONE	N/A
8.	Asbestos	YES	<1	NONE	N/A
9.	Azo+carcinogenic amino comp	YES	<1	NONE	N/A
10.	Barium and its compounds	YES	<20	STANDARD PVC	<200
11.	Benzene	YES	<1	NONE	N/A
12.	Benzidine	YES	<1	NONE	N/A
13.	Beryllium and its compounds	YES	<1	NONE	N/A
14.	Biocides	YES	<1	NONE	N/A
15.	Bismut and its compounds	YES	<1	NONE	N/A
16.	Bismuth	YES	<10	NONE	N/A
17.	Brominated Hydrocarbons	YES	<10	NONE	N/A
18.	Bromium	YES	<35	STANDARD PVC	<250
19.	Butane	YES	<1	NONE	N/A
20.	Cadmium	YES, EXCEPT---->	<30	ALLOY 135	<3200
21.	Chlorinated Hydrocarbons	YES	<10	NONE	N/A
22.	Chlorofluorocarbons (CFC's)	YES	<1	NONE	N/A
23.	Chromium (elemental)	YES	<30	ALLOY 135	<2800
24.	Chromium (elemental)	YES	<30	STAINLESS STEEL 302/CCS	<50,000
25.	Chromium VI (hexavalent)	YES	<1	NONE	N/A
26.	Coal tar pitch volatiles	YES	<10	NONE	N/A
27.	Cobalt	YES	<10	NONE	N/A
28.	Colophony (rosin)	YES	<1	NONE	N/A
29.	Cyanides	YES	<1	NONE	N/A
30.	DBBT Flame retardant	YES	<1	NONE	N/A
31.	DEHP	YES	<1	NONE	N/A
32.	DHTDMAC	YES	<1	NONE	N/A
33.	DSDMAC	YES	<1	NONE	N/A
34.	DTDMAC	YES	<1	NONE	N/A
35.	Ethylene Glycol Ethers	YES	<1	NONE	N/A
36.	Fluorinated Hydrocarbons - gaseous	YES	<1	NONE	N/A
37.	Formaldehyde	YES	<1	NONE	N/A
38.	Glycol Ethers	YES	<1	NONE	N/A
39.	Halogenated dioxins	YES	<1	NONE	N/A
40.	Hydrazine	YES	<1	NONE	N/A
41.	Hydrochlorofluorocarbons (HCFC)	YES	<1	NONE	N/A

No.	MATERIAL	RoHS COMPLIANT?	ALL PRODUCTS PPM	PRODUCTS WITH HIGHER VALUES	PPM
42.	Lead and its compounds	YES, EXCEPT -->	<20	STANDARD PVC	<14,000
43.	MDA	YES	<1	NONE	N/A
44.	MEK	YES	<1	NONE	N/A
45.	Mercury	YES	<1	NONE	N/A
46.	Methanol	YES	<1	NONE	N/A
47.	Napthlalene	YES	<50	NONE	N/A
48.	Nitrobenzene	YES	<1	NONE	N/A
49.	Nitrosamines	YES	<1	NONE	N/A
50.	Ozone depleting materials	YES	<1	NONE	N/A
51.	PBB, PBDE, PBDO and TBBP-A	YES	<1	NONE	N/A
52.	PCB or PCT	YES	<1	NONE	N/A
53.	PCT's	YES	<1	NONE	N/A
54.	Pentachloroethane	YES	<1	NONE	N/A
55.	Phenol	YES	<1	NONE	N/A
56.	Phthalates	YES	<1	NONE	N/A
57.	Polychlorinated PCBs/PCTs	YES	<1	NONE	N/A
58.	Polycyclic Aromatic Hydrocarbons	YES	<1	NONE	N/A
59.	Potassium Bromate	YES	<1	NONE	N/A
60.	Potassium cresylate	YES	<1	NONE	N/A
61.	Propylene Oxide	YES	<1	NONE	N/A
62.	Radioactive Materials	YES	<1	NONE	N/A
63.	Selenium	YES	<50	RED/YEL/ORG PTFE PRODUCTS	<3000
64.	Sodium Nitrite	YES	<1	NONE	N/A
65.	Surface Nickel/prolonged contact	YES	<10	NONE	N/A
66.	TBB	YES	<1	NONE	N/A
67.	TBBA	YES	<1	NONE	N/A
68.	Thallium	YES	<1	NONE	N/A
69.	Toulene	YES	<1	NONE	N/A
70.	Tris Flame retardant	YES	<1	NONE	N/A
71.	Vinyl chloride monomer	YES	<10	NONE	N/A
72.	Zinc chromate	YES	<1	NONE	N/A

B.8 **TEMPERATURE/OXYGEN INDEX RATINGS** - Some customer questionnaires have requested the LOI (limiting oxygen index) values and the maximum temperature ratings of our products. The table below provides the published values. The temperature rating of our products is set at the lowest temperature rating of its constituent materials:

MATERIAL	LIMITING OXYGEN INDEX	MAX TEMP RATING, DEG-C
Mica	99%	540
Quartz	99%	540
Fiberglass	99%	400
Nickel Plated Copper	99%	260
Stainless Steel	99%	260
Polyimide	53%	260
PTFE	95%	260
PFA	95%	250
FEP	95%	200
Silver Plated Copper	99%	200
Aluminum/Mylar	27%	200
ETFE	31%	150
Tin Plated Copper	99%	150

PVC	29%	105
Hytrel	22%	90
Santoprene	29%	90
Estane	30%	90

- B.9 **THERMAX RoHS COMPLIANCE PROJECTS** - Thermax has launched several major RoHS programs since late 2003 to identify and eliminate materials of concern from our products. The most difficult to replace heavy metal for high temperature products is cadmium which is one of the few materials that forms very heat stable compounds to handle the 1000°F processing conditions and 500°F temperature rating of PTFE.

About 95% of our heavy metal free accomplishments were relatively easy, although time consuming. The greatest challenge was finding cad-free pigments for red, yellow and orange as used in PTFE. As you can see in our opening paragraphs, this has now been accomplished and is being introduced into current production. Our tape vendors are still facing this challenge.

We have also worked with our vendors to achieve a lead-free PVC compound. As noted above, this is available on special request only. Work also continues on finding a high flex-life, high strength copper alloy which is fully equivalent to the field proven cad-chrome-copper Alloy 135.

- B.10 **INTERNAL TESTING CAPABILITIES** - Thermax has purchased an X-ray fluorescence analyzer to provide the ability to run RoHS test measurements at Incoming and Final Inspection to verify compliance of incoming materials as well as sampling inspection on finished products. This equipment measures the ppm levels of the heavy metals including cadmium, mercury, lead and chromium.

Although this equipment is for internal use, Thermax has a limited ability to test customer submitted samples. Our price reflects our cost and has been set at \$600/sample.

- B.11 **OUTSIDE LAB CHEMICAL CERTIFICATES** - Thermax has submitted representative product samples to outside labs to test and confirm the ppm levels that we have advised. Test reports on these representative samples can be provided upon special customer request.

Appendix C: Miscellaneous Safety Assurances



- C.1 **CADMIUM EFFORTS** - Thermax's RoHS program has successfully reduced the content of cadmium and other heavy metal materials to within RoHS limits on applicable products. Some products still contain cadmium, such as the cadmium used in high strength copper alloys and cadmium in red, yellow and orange PTFE taped wrap insulations. We continue to work with our vendors to eventually achieve cadmium-free versions that meet all product performance requirements.
- C.2 **CADMIUM ENCAPSULATION** - RoHS documents require the reduction of cadmium and other materials, even if they are not capable of being released during our customer's handling or manufacturing processes. Even before Thermax reduced the heavy metal content of our products, the cadmium compounds were encapsulated in a plastic matrix, which significantly prevented them from being released into the environment.

The same situation exists with the cadmium used in our cadmium copper high strength alloys. These are heat-precipitated alloys where the cadmium content is trapped within the grain structure matrix, preventing it from being released. Therefore, although we have some products which still contain cadmium due to the current lack of a suitable alternative, we do not believe that they present a health problem and are thus not subject to the special warning labels per OSHA requirements.

- C.2 **PFOA, PFOS AND PFAS** - Perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS) and perfluoroalkyl sulfonate (PFAS) are chemicals that are now being studied to determine whether they present any threat to the environment or health. As these chemicals have been associated with fluorocarbons, some customers have contacted Thermax to determine whether they are in our fluorocarbon products.

PFOA, PFOS and PFAS are either not present in any Thermax products or are present in trace quantities. These chemicals may be present at the plants of our fluorocarbon vendors. In accordance with an EPA agreement with our suppliers, a PFOA reduction program at their facilities is now taking place.

- C.3 **FLUOROCARBONS IN FIRE CONDITIONS** - Fluorocarbons have unusually stable thermal and chemical properties. Unlike most other plastics and insulating materials, fluorocarbons do not support combustion except in a pure oxygen environment. When they are exposed to flame, they usually emit very little smoke. They have a very low energy contribution per pound, unlike other materials like polyethylene, and thus contribute little energy to a fire. Fluorocarbons do emit some byproducts when they are exposed to temperatures well beyond their ratings (500° F maximum). These fluorocarbon products contain the very heavy fluorine atom and are usually particulates which do not remain in the air as lighter components might. All organic materials may emit harmful byproducts when exposed to fire or excessive temperatures, even including common foods being cooked at home. However, fluorocarbons are one of the safest.

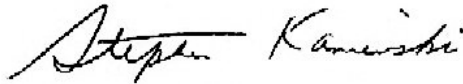
Prepared By:	 _____ Richard Thayer, Staff VP	July 10, 2007 _____ Date
Reviewed By:	 _____ Arnaldo Gomez, Quality Project Manager	July 10, 2007 _____ Date



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Scott B. Rheingold, Plant Manager

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Date