Regulatory Analysis Form

This space for use by IRRC

(1) Agency

Environmental Protection

(2) I.D. Number (Governor's Office Use)

#7-326

IRRC Number: 1878

(3) Short Title

Equivalency Determinations and Aerospace Manufacturing and Rework VOC Emission Limitations

(4) PA Code Cite

25 PA Code Sections 121.1,129.51, and 129.73

(5) Agency Contacts & Telephone Numbers

Primary Contact: Sharon Freeman, 717-783-1303

Secondary Contact: Barbara A. Sexton, 717-783-1303

(6) Type of Rulemaking (Check One)

_X_ Proposed Rulemaking
____Final Order Adopting Regulation
____Final Order, Proposed Rulemaking Omitted

(7) Is a 120-Day Emergency Certification Attached?

_X_ No
____ Yes: By the Attorney General
____ Yes: By the Governor

(8) Briefly explain the regulation in clear and nontechnical language.

The proposed regulation will establish volatile organic compound (VOC) limitations for surface coating, adhesive, solvent cleaning, and will establish housekeeping requirements specific to the aerospace manufacturing and rework industry. Presently, these operations are regulated, where applicable, by the general surface coating limitations contained in Section 129.52. These proposed additions will incorporate the requirements contained in the provisions of a draft EPA Control Techniques Guidance (CTG) document. These requirements acknowledge the unique nature of the aerospace coatings and coating processes and provide for the use of some materials which have higher VOC levels than are permissible under existing regulations. Definitions appropriate to the industry are added to Section 121.1.

The proposal would also delete the requirement from Section 129.(equivalencies be submitted to EPA as revisions to the state implementa

PROPOSED	
IRRC #	1878
PAB	8/23/97
CPC per mail	10/29/97
CRD	11/24/97 12/1/97
MONITOR	McGINLEY
ANALYST	JJ
SUPPORT	KSD

mya 5/13

(9) State the statutory authority for the regulation and any relevant sta

This action is being taken under the authority of Sections 5(a)(1) and Control Act (35 P.S. § 4005 (a)(1).

Regulatory Analysis Form
(10) Is the regulation mandated by any federal or state law or court order, or federal regulation? If yes, cite the specific law, case or regulation, and any deadlines for action. The provisions of Subsection 5 (a)(13) of the Pennsylvania Air Pollution Control Act specify that the Department may adopt alternative VOC emission limitations for aerospace coatings which are required to be used by the Department of Defense and other governmental agencies. EPA has drafted a CTG for the industry. This draft CTG was developed in close cooperation with the industry. The proposed rule is consistent with the draft CTG.
(11) Explain the compelling public interest that justifies the regulation. What is the problem it addresses? Presently, aerospace manufacturing and rework surface coating operations are limited by general "miscellaneous metal parts" VOC limitations contained in Section 129.52. These requirements will impose limitations consistent with those contained in the draft CTG. The draft CTG contains limits for in excess of thirty distinct finish materials used by the industry. Pennsylvania's aerospace manufacturers compete with manufacturers in other areas of the country, and the adoption of the proposed CTG-based regulations will allow Pennsylvania's manufacturers to use coatings generally available to the industry and consistent with specifications established by the Department of Defense (DOD) and NASA and the industry.
(12) State the public health, safety, environmental or general welfare risks associated with non-regulation. There are no anticipated public health, environmental or general welfare risks associated with the proposed revisions.
(13) Describe who will benefit from the regulation. (Quantify the benefits as completely as possible and approximate the number of people who will benefit.) The aerospace industry will benefit by having emission limitations and operating practice requirements consistent with manufacturers in other areas of the country. This will allow Pennsylvania's industry to operate more competitively and to more easily satisfy requirements established by DOD, NASA and other major purchasers of aerospace products. In addition, the changes to the equivalency provisions will allow alternate compliance methods to be implemented on a more expedited basis benefiting affected facilities.

Regulatory Analysis Form
(14) Describe who will be adversely affected by the regulation. (Quantify the adverse effect as completely as possible and approximate the number of people who will be adversely affected.) The proposed revisions of the regulations are not expected to produce any adverse impacts on the regulated community, the citizens of the Commonwealth, or governmental entities.
(15) List the persons, groups or entities that will be required to comply with the regulation. (Approximate the number of people who will be required to comply.) EPA has indicated that as many as 70-75 Pennsylvania facilities may be involved in production of aerospace vehicles and components. Many of these facilities may be subcontractors providing components to the industry. In general, any facilities which may be affected by the proposed changes are affected by the existing miscellaneous metal parts surface coating requirements in Section 129.52. The proposed changes will allow these facilities to use coating and adhesive materials generallly used by the industry instead of the materials more tightly regulated by the general provisions of Section 129.52.
(16) Describe the communications with and inputs from the public in the development and drafting of the regulation. List the persons and/or groups who where involved, if applicable. The need for the regulatory changes is identified in the Pennsylvania Air Pollution Control Act. Additionally, these proposed regulations were discussed and reviewed by the Air Subcommittee of the Air and Water Quality Technical Advisory Committee for their input and recommendation for proposed rulemaking.
(17) Provide a specific estimate of the cost and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required. There are not expected to be significant cost savings or additional costs to the affected industry. Benefits may be experienced by the aerospace industry because the industry in Pennsylvania will be able to use the same classes of materials used by the industry nationwide and specified by purchasers such as NASA and DOD. Some savings may result from removing the requirement to submit equivalencies to EPA as SIP revisions. These savings are anticipated to be small.

Regulatory Analysis Form
(18) Provide a specific estimate of the cost and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required. The proposed revisions to the regulations are expected to impose no additional costs on local governments. No cost savings are anticipated.
(19) Provide a specific estimate of the cost and/or savings to state government associated with the implementation of the regulation, including any legal, accounting or consulting procedures which may be required. The proposed revisions are expected to impose no additional costs on state government. No cost savings are anticipated.

Combined Regulations

(20) In the table below, provide an estimate of the fiscal savings and cost associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
SAVINGS:	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Regulated Community	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Local Government	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
State Governments	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Total Savings	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
COSTS:	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Regulated Community	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Local Government	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
State Governments	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Total Cost	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
REVENUE LOSSES:	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Regulated Community	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Local Government	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
State Governments	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**
Total Revenue Losses	**$00.00**	**00.00**	**$00.00**	**00.00**	**$00.00**	**00.00**

(20a) Explain how the cost estimates listed above were derived.

It is not anticipated that the proposed revisions will impose either significant cost increases or cost savings. Some minor savings may be realized through the reduced administrative burden associated with processing equivalencies under Section 129.51.

Regulatory Analysis Form

(20b) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3	FY-2	FY-1	Current FY
Air Quality	21,000,000	26,000,000	29,000,000	27,000,000

(21) Using the cost-benefit information provided above, explain how the benefits of the regulation outweigh the adverse effects and cost.

There are not anticipated to be either significant costs or cost savings associated with the proposed revisions. The proposal will, however, allow Pennsylvania's aerospace industry to compete more effectively with the industry in other areas of the country because the VOC limits in surface coating and adhesive products will be equivalent to those in other states.

(22) Describe the nonregulatory alternative considered and the cost associated with those alternatives. Provide the reasons for their dismissal.

No non-regulatory alternatives were considered. The proposed revisions are responsive to the provisions in Section 5(a)(13) of the Pennsylvania Air Pollution Control Act.

Non-regulatory approaches would not have been responsive to the matter.

(23) Describe alternative regulatory schemes considered and the cost associated with those schemes. Provide the reasons for their dismissal.

No alternative schemes were considered.

Regulatory Analysis Form
(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations. No.
(25) How does the regulation compare with those of other states? Will the regulation put Pennsylvania at a competitive disadvantage with other states? The proposed revisions are consistent with the federal proposed CTG which will establish the norm for regulating the industry in ozone nonattainment areas throughout the country.
(26) Will the regulation affect existing or proposed regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations. No
(27) Will any public hearings or informational meetings be scheduled? Please provide the dates, times, and locations, if available. Three public hearings will be scheduled.

Regulatory Analysis Form
(28) Will the regulation change existing reporting, record keeping, or other paperwork requirements? Describe the changes and attach copies of forms or reports which will be required as a result of implementation, if available. No.
(29) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers. Compliance assistance is available if it is needed by the affected facilities.
(30) What is the anticipated effective date of the regulation; the date by which compliance with the regulation will be required; and the date by which any required permits, licenses or other approvals must be obtained? The effective date for the proposed revisions is anticipated to be late-1998. The regulations will become effective upon publication in the *Pennsylvania Bulletin* as final rulemaking. No permits or licenses are required.
(31) Provide the schedule for continual review of the regulation. The regulations will be reviewed in accordance with the sunset review schedule published by the Department.

FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE BUREAU

(Pursuant to Commonwealth Documents Law)

97 AUG 12 PM 2:

DO NOT WRITE IN THIS SPACE

py below is hereby approved as to and legality. Attorney General

(DEPUTY ATTORNEY GENERAL)

JUL 30 1997

DATE OF APPROVAL

eck if applicable
py not approved. Objections ached.

Copy below is hereby certified to be a true and correct copy of a document issued, prescribed or promulgated by:

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. #7-326

DATE OF ADOPTION: 7-15-1997

BY: John M. Seif

TITLE: JAMES M. SEIF, CHAIRMAN
(EXECUTIVE OFFICER, CHAIRMAN OR SECRETARY)

Copy below is hereby approved as to form and legality, Executive or Independent Agencies.

BY:

7/15/97
DATE OF APPROVAL

(Deputy General Counsel)
(Chief Counsel, Independent Agency)
(Strike inapplicable title)

☐ Check if applicable. No Attorney General approval or objection within 30 days after submission.

NOTICE OF
PROPOSED RULEMAKING
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

25 PA Code, Chapters 121 and 129/

Equivalency Determinations and Aerospace
Manufacturing and Rework - VOC Emission Limitations

NOTICE OF PROPOSED RULEMAKING
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

25 Pa. Code Chapters 121 and 129
Equivalency Determinations and Aerospace Manufacturing and Rework VOC Emission Limitations

Preamble

The Environmental Quality Board (EQB) proposes to amend 25 Pa. Code Chapters 121 and 129 (relating to definitions and standards for sources) as set forth in Annex A.

The changes to Chapter 121 add definitions of terms used in the substantive sections of Chapter 129. A new Section 129.73 establishes requirements to control volatile organic compound (VOC) emissions from aerospace manufacturing and rework facilities. In addition, Section 129.51 is being modified to remove the requirement that equivalency determinations be submitted to the Environmental Protection Agency (EPA) as a State Implementation Plan (SIP) amendment.

This notice is given under Board Order at its meeting of July 15, 1997.

A. Effective Date

These amendments will be effective upon publication in the Pennsylvania Bulletin as final rulemaking.

B. Contact Persons

For further information, contact Terry Black, Chief, Regulation and Policy Development Section, Division of Compliance and Enforcement, Bureau of Air Quality, 12th Floor Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, telephone (717) 787-1663, or M. Dukes Pepper, Jr., Assistant Counsel, Bureau of Regulatory Counsel, Office of Chief Counsel, 9th Floor Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, telephone (717) 787-7060.

C. Statutory Authority

This action is being taken under the authority of Sections 5(a)(1) and 5(a)(13) of the Air Pollution Control Act (35 P.S. §§4005(a)(1) and 4005(a)(13)), which grants to the EQB the authority to adopt regulations for the prevention, control, reduction and abatement of air pollution.

D. Background of the Amendment

Section 5(a)(13) of the Air Pollution Control Act (35 P.S. §4005(a)(13)) specifically authorizes the Environmental Quality Board to adopt regulations establishing alternative volatile organic compound (VOC) emission limitations for aerospace coatings and solvents, including extreme performance coatings, which are required to be used by the United States Department of Defense, the United States Department of Transportation and the National Aeronautics and Space Administration or to meet military and aerospace specifications provided such alternative limitations are authorized by the Clean Air Act.

EPA has worked with the aerospace industry to develop control techniques and guidelines related to VOC emissions from aerospace manufacturing and rework operations. These proposed regulations incorporate the substantive provisions of the draft guidelines into the Department's air quality regulations.

The Department worked with the Air Subcommittee of the Air and Water Quality Technical Advisory Committee (AWQTAC) in the development of these regulations. At its April 17, 1997 meeting, the Air Subcommittee acting on behalf of AWQTAC recommended adoption of the proposed regulations.

E. Summary of Regulatory Revisions

The proposed changes to Chapter 121 add definitions of terms used in the substantive provisions in Chapter 129. Most of the definitions are coatings listed in Table II. The definitions include: "ablative coating", "adhesion promoter", "adhesion bonding primer", "adhesive primer", "aerosol coating", "aerospace coating operation", "aerospace coating unit", "aerospace primer", "aerospace surface preparation", "aerospace topcoat", "aerospace vehicle or component", "aircraft fluid systems", "aircraft transparency", "antichafe coating", "antique aerospace vehicle or component", "aqueous cleaning solvent", "bonding maskant", "chemical agent-resistant coating (CARC)", "chemical milling maskant", "cleaning operation", "cleaning solvent", "closed-cycle depainting system", "commercial exterior aerodynamic structure primer", "commercial interior adhesive", "compatible epoxy primer", "compatible substrate primer", "confined space", "corrosion prevention system", "critical use and line sealer maskant", "cryogenic flexible primer", "cryoprotective coating", "cyanoacrylate adhesive", "electric or radiation-effect coating", "electrostatic discharge and electromagnetic interference (EMI) coating", "elevated temperature skydrol resistant commercial primer", "epoxy polyamide topcoat", "exempt solvent", "fire-resistant (interior) coating", "flexible primer", "flight testing coating", "flush cleaning", "fuel tank adhesive", "fuel tank coating", "hand-wipe cleaning operation", "high temperature coating", "insulation covering", "intermediate release coating",

"lacquer", "limited access space", "metalized epoxy coating", "mold release", "nonstructural adhesive", "operating parameter value", "optical antireflection coating", "part marking coating", "pretreatment coating", "radome", "rain erosion-resistant coating", "rocket motor bonding adhesive", "rocket motor nozzle coating", "rubber-based adhesive", "scale inhibitor", "screening print ink", "sealant", "seal coat maskant", "self-priming topcoat", "semiaqueous cleaning solvent", "silicone insulation material", "solids", "solid film lubricant", "space vehicle", "specialty coating", "specialized function coating", "spray gun", "structural autoclavable adhesive", "structural nonautoclavable adhesive", "temporary protective coating", "thermal control coating", "touch-up and repair operation", "Type I chemical etchant", "Type II chemical etchant", "VOC composite vapor pressure", "waterborne (water-reducible) coating", "wet fastener installation coating", and "wing coating".

In addition, the definition of "miscellaneous metal parts and products" is being modified to exclude aerospace vehicles or components from the miscellaneous metal parts and products category.

The changes to Section 129.51(a)(6) remove the requirement that alternative compliance methods for meeting the VOC requirements contained in Sections 129.52, 129.67 and 129.73 (relating to surface coating processes, graphic arts systems and aerospace manufacturing and rework) be submitted to EPA as a SIP amendment. The proposal requires the alternative compliance method to be incorporated into a plan approval and operating permit which is subject to EPA review. This will streamline the process for establishing alternative compliance methods.

A new Section 129.73, Aerospace Manufacturing and Rework, establishes specific allowable VOC content requirements for aerospace coatings. The methodology for calculating the VOC content of coatings is provided in Section 129.73(a)(3). Paragraph (a)(4) of the regulations establishes application techniques for applying aerospace coatings and paragraph (a)(5) establishes exceptions to those coating technique requirements. Paragraph (a)(6) establishes limitations for hand-wipe cleaning of aerospace vehicles or components and paragraph (a)(7) establishes exceptions to the hand-wipe requirements. Paragraphs (a)(8) through (a)(10) establish requirements for cleaning solvent containers, spray gun cleaning and housekeeping. Paragraph (a)(11) authorizes compliance through the use of approved air pollution control equipment. Finally, paragraph (a)(12) establishes the recordkeeping requirements for aerospace manufacturing and rework facilities.

This regulatory revision will be submitted to the Environmental Protection Agency as an amendment to the State Implementation Plan.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the proposed regulation.

Benefits

Overall, the citizens of the Commonwealth will benefit from these recommended changes because they streamline the procedures for implementing the Department's air quality program for establishing equivalencies and implement specific requirements for aerospace manufacturing and rework operations.

Compliance Costs

These regulations may slightly reduce compliance costs by streamlining the equivalency process. The aerospace requirements should have no effect on compliance costs.

Compliance Assistance Plan

The Department plans to educate and assist the public and the regulated community with understanding the newly revised requirements and how to comply with them. This will be accomplished through the Department's ongoing regional compliance assistance program.

Paperwork Requirements

The regulatory revisions will reduce the paperwork related to complaints and odor investigations.

G. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

H. Regulatory Review

Under §5(a) of the Regulatory Review Act, the act of June 30, 1989 (P.L. 73, No. 19) (71 P.S. §745.5(a)), the Department submitted a copy of the proposed rulemaking on August 12, 1997 to the Independent Regulatory Review Commission and to the Chairmen of the Senate and House Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided the Commission and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

If the Commission has any objections to any portion of the proposed amendments, it will notify the Department within thirty (30) days of the close of the public comment period. The notification shall specify the regulatory review criteria which have not been met by that portion. The act specifies detailed procedures for the Department, the Governor, and the General Assembly to review these objections before final publication of the regulation.

I. Public Comment and EQB Public Hearings

Public Hearings

The EQB will hold three (3) public hearings for the purpose of accepting comments on the proposed amendments. The hearings will be held at 10:00 a.m. on the following dates and at the following locations:

September 23, 1997	Department of Environmental Protection 1st Floor Meeting Room Rachel Carson State Office Building 400 Market Street Harrisburg, PA
September 25, 1997	Department of Environmental Protection Southwest Regional Office 500 Waterfront Drive Pittsburgh, PA
September 29, 1997	Upper Merion Township Building 175 West Valley Forge Road King of Prussia, PA

Persons wishing to present testimony at the hearings must contact Kate Coleman at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, telephone (717) 787-4526, at least one (1) week in advance of the hearing to reserve a time to present testimony. Oral testimony will be limited to ten minutes for each witness and three written copies of the oral testimony must be submitted at the hearing. Each organization is requested to designate one witness to present testimony on its behalf.

Persons with a disability who wish to attend the hearings and require an auxiliary aid, service or other accommodations in order to participate, should contact Kate Coleman at (717) 787-4526 or through the Pennsylvania AT&T relay service at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

ritten Comments

In lieu of or in addition to presenting oral testimony at the hearings, interested persons may submit written comments, suggestions or objections regarding the proposed amendments to the EQB, 15th Floor Rachel Carson State Office Building, P.O. Box 8477, Harrisburg, PA 17105-8477. Comments received by facsimile will not be accepted. Comments must be received by October 29, 1997. In addition to the written comments, interested persons may also submit a summary of their comments to the EQB. This summary may not exceed one (1) page in length and must be received by October 29, 1997. The summary will be provided to each member of the EQB in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

Electronic Comments

Comments may be submitted electronically to the EQB at Regcomments@a1.dep.state.pa.us. A subject heading of the proposal and return name and address must be included in each transmission. Comments submitted electronically must also be received by the EQB by October 29, 1997.

By

James M. Seif
Chairman
Environmental Quality Board

ANNEX A

Title 25. Environmental Protection

Part I. Department of Environmental Protection
Subpart C. Protection of Natural Resources

Article III. Air Resources

Chapter 121. General Provisions

Chapter 121. General Provisions

§121.1. Definitions.

The definitions in section 3 of the act (35 P.S. §4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

ABLATIVE COATING--A COATING THAT CHARS WHEN EXPOSED TO OPEN FLAME OR EXTREME TEMPERATURES, AS WOULD OCCUR DURING THE FAILURE OF AN ENGINE CASING OR DURING AERODYNAMIC HEATING. THE ABLATIVE CHAR SURFACE SERVES AS AN INSULATING BARRIER, PROTECTING ADJACENT COMPONENTS FROM THE HEAT OR OPEN FLAME.

* * * * *

ADHESION PROMOTER--A VERY THIN COATING APPLIED TO AN AEROSPACE VEHICLE OR COMPONENT SUBSTRATE TO PROMOTE WETTING AND TO FORM A CHEMICAL BOND WITH THE SUBSEQUENTLY APPLIED MATERIAL.

ADHESIVE BONDING PRIMER--A PRIMER APPLIED IN A THIN FILM TO AEROSPACE COMPONENTS FOR THE PURPOSE OF CORROSION INHIBITION AND INCREASED ADHESIVE BOND STRENGTH BY ATTACHMENT. THERE ARE TWO

CATEGORIES OF ADHESIVE BONDING PRIMERS: PRIMERS WITH A DESIGN CURE AT 250°F OR BELOW AND PRIMERS WITH A DESIGN CURE ABOVE 250°F.

ADHESIVE PRIMER--A COATING APPLIED TO AN AEROSPACE VEHICLE OR COMPONENT THAT (1) INHIBITS CORROSION AND SERVES AS A PRIMER WHEN APPLIED TO BARE METAL OR OTHER SURFACES PRIOR TO ADHESIVE APPLICATION, OR (2) IS APPLIED TO SURFACES THAT CAN BE EXPECTED TO CONTAIN FUEL, WITH THE EXCEPTION OF FUEL TANKS.

AEROSOL COATING--A COATING EXPELLED FROM A HAND-HELD, PRESSURIZED, NONREFILLABLE CONTAINER IN A FINELY DIVIDED SPRAY WHEN A VALVE ON THE CONTAINER IS DEPRESSED.

AEROSPACE COATING OPERATION--AN OPERATION USING A SPRAY BOOTH, TANK, OR OTHER ENCLOSURE OR AN AREA, SUCH AS A HANGAR, FOR APPLYING A SINGLE TYPE OF COATING (E.G., PRIMER); USING THE SAME SPRAY BOOTH FOR APPLYING ANOTHER TYPE OF COATING (E.G., TOPCOAT) CONSTITUTES A SEPARATE COATING OPERATION FOR WHICH COMPLIANCE DETERMINATIONS ARE PERFORMED SEPARATELY.

AEROSPACE COATING UNIT--A SERIES OF ONE OR MORE COATING APPLICATORS AND ANY ASSOCIATED DRYING AREA AND/OR OVEN WHEREIN A COATING IS APPLIED, DRIED, AND CURED. A COATING UNIT ENDS AT THE POINT WHERE THE COATING IS DRIED OR CURED, OR PRIOR TO ANY SUBSEQUENT APPLICATION OF A DIFFERENT COATING. IT IS NOT NECESSARY TO HAVE AN ASSOCIATED OVEN OR FLASHOFF AREA TO BE INCLUDED IN THIS DEFINITION.

AEROSPACE PRIMER--THE FIRST LAYER AND ANY SUBSEQUENT LAYERS OF IDENTICALLY FORMULATED COATING APPLIED TO THE SURFACE OF AN AEROSPACE VEHICLE OR COMPONENT. PRIMERS ARE TYPICALLY USED FOR CORROSION PREVENTION, PROTECTION FROM THE ENVIRONMENT, FUNCTIONAL FLUID RESISTANCE, AND ADHESION OF SUBSEQUENT COATINGS. PRIMERS THAT ARE DEFINED AS SPECIALTY COATINGS ARE NOT INCLUDED UNDER THIS DEFINITION.

AEROSPACE SURFACE PREPARATION--THE REMOVAL OF CONTAMINANTS FROM THE SURFACE OF AN AEROSPACE VEHICLE OR COMPONENT OR THE ACTIVATION OR REACTIVATION OF THE SURFACE IN PREPARATION FOR THE APPLICATION OF A COATING.

AEROSPACE TOPCOAT--A COATING THAT IS APPLIED OVER A PRIMER ON AN AEROSPACE VEHICLE OR COMPONENT FOR APPEARANCE, IDENTIFICATION, CAMOUFLAGE, OR PROTECTION. TOPCOATS THAT ARE DEFINED AS SPECIALTY COATINGS ARE NOT INCLUDED UNDER THIS DEFINITION.

AEROSPACE VEHICLE OR COMPONENT--A FABRICATED PART, PROCESSED PART, ASSEMBLY OF PARTS, OR COMPLETED UNIT, WITH THE EXCEPTION OF ELECTRONIC COMPONENTS, OF ANY AIRCRAFT INCLUDING BUT NOT LIMITED TO AIRPLANES, HELICOPTERS, MISSILES, ROCKETS, AND SPACE VEHICLES.

* * * * *

AIRCRAFT FLUID SYSTEMS--SYSTEMS THAT HANDLE HYDRAULIC FLUIDS, FUEL, COOLING FLUIDS, OR OILS.

AIRCRAFT TRANSPARENCY—AN AIRCRAFT WINDSHIELD, CANOPY, PASSENGER WINDOWS, LENSES AND OTHER COMPONENTS WHICH ARE CONSTRUCTED OF TRANSPARENT MATERIALS.

* * * * *

ANTICHAFE COATING--A COATING APPLIED TO AREAS OF MOVING AEROSPACE COMPONENTS THAT MAY RUB DURING NORMAL OPERATIONS OR INSTALLATION.

ANTIQUE AEROSPACE VEHICLE OR COMPONENT--AN ANTIQUE AIRCRAFT, AS DEFINED BY 14 CFR PART 45, OR COMPONENTS THEREOF. AN ANTIQUE

AEROSPACE VEHICLE WOULD NOT ROUTINELY BE IN COMMERCIAL OR MILITARY SERVICE IN THE CAPACITY FOR WHICH IT WAS DESIGNED.

* * * * *

AQUEOUS CLEANING SOLVENT--A SOLVENT IN WHICH WATER IS AT LEAST 80 PERCENT BY WEIGHT OF THE SOLVENT.

* * * * *

BONDING MASKANT--A TEMPORARY COATING USED TO PROTECT SELECTED AREAS OF AEROSPACE PARTS FROM STRONG ACID OR ALKALINE SOLUTIONS DURING PROCESSING FOR BONDING.

* * * * *

CHEMICAL AGENT-RESISTANT COATING (CARC)--AN EXTERIOR TOPCOAT APPLIED TO AEROSPACE VEHICLES OR COMPONENTS DESIGNED TO WITHSTAND EXPOSURE TO CHEMICAL WARFARE AGENTS OR THE DECONTAMINANTS USED ON THESE AGENTS.

CHEMICAL MILLING MASKANT--A COATING THAT IS APPLIED DIRECTLY TO ALUMINUM AEROSPACE VEHICLES OR COMPONENTS TO PROTECT SURFACE AREAS WHEN CHEMICALLY MILLING THE COMPONENT WITH A TYPE I OR II ETCHANT. THIS DOES NOT INCLUDE BONDING MASKANTS, LINE SEALERS, AND CRITICAL USE AND SEAL COAT MASKANTS. ADDITIONALLY, MASKANTS THAT MUST BE USED ON AN INDIVIDUAL PART OR SUBASSEMBLY WITH A COMBINATION OF TYPE I OR II ETCHANTS AND ANY OF THE ABOVE TYPES OF MASKANTS (E.G., BONDING, LINE SEALERS, AND CRITICAL USE AND SEAL COAT)

ARE NOT INCLUDED. MASKANTS THAT ARE DEFINED AS SPECIALTY COATINGS ARE NOT INCLUDED UNDER THIS DEFINITION.

CLEANING OPERATION--SPRAY-GUN, HAND-WIPE, AND FLUSH CLEANING OPERATIONS.

CLEANING SOLVENT--A LIQUID MATERIAL USED FOR HAND-WIPE, SPRAY GUN, OR FLUSH CLEANING. THIS DEFINITION INCLUDES SOLUTIONS THAT CONTAINS VOC.

* * * * *

CLOSED-CYCLE DEPAINTING SYSTEM--A DUST FREE, AUTOMATED PROCESS THAT REMOVES PERMANENT COATING IN SMALL SECTIONS AT A TIME, AND MAINTAINS A CONTINUOUS VACUUM AROUND THE AREA(S) BEING DEPAINTED TO CAPTURE EMISSIONS.

* * * * *

COMMERCIAL EXTERIOR AERODYNAMIC STRUCTURE PRIMER--AN AEROSPACE VEHICLE OR COMPONENT PRIMER USED ON AERODYNAMIC COMPONENTS AND STRUCTURES THAT PROTRUDE FROM THE FUSELAGE, SUCH AS WINGS AND ATTACHED COMPONENTS, CONTROL SURFACES, HORIZONTAL STABILIZERS, VERTICAL FINS, WING-TO-BODY FAIRINGS, ANTENNAE, AND LANDING GEAR AND DOORS, FOR THE PURPOSE OF EXTENDED CORROSION PROTECTION AND ENHANCED ADHESION.

COMMERCIAL INTERIOR ADHESIVE--MATERIALS USED IN THE BONDING OF PASSENGER CABIN INTERIOR COMPONENTS. THESE COMPONENTS MUST MEET

THE FEDERAL AERONAUTICS ADMINISTRATION FIREWORTHINESS REQUIREMENTS.

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COMPATIBLE EPOXY PRIMER—AN AEROSPACE VEHICLE OR COMPONENT PRIMER THAT IS COMPATIBLE WITH THE FILLED ELASTOMERIC COATING AND IS EPOXY BASED. THE COMPATIBLE SUBSTRATE PRIMER IS AN EPOXY-POLYAMIDE PRIMER USED TO PROMOTE ADHESION OF ELASTOMERIC COATINGS SUCH AS IMPACT- RESISTANT COATINGS.

COMPATIBLE SUBSTRATE PRIMER--EITHER COMPATIBLE EPOXY PRIMER OR ADHESIVE PRIMER APPLIED TO AEROSPACE VEHICLES OR COMPONENTS.

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CONFINED SPACE--A SPACE THAT (1) IS LARGE ENOUGH AND SO CONFIGURED THAT AN EMPLOYEE CAN ENTER AND PERFORM ASSIGNED WORK; (2) HAS LIMITED OR RESTRICTED MEANS FOR ENTRY OR EXIT (FOR EXAMPLE, FUEL TANKS, FUEL VESSELS, AND OTHER SPACES THAT HAVE LIMITED MEANS OF ENTRY); AND (3) IS NOT SUITABLE FOR CONTINUOUS EMPLOYEE OCCUPANCY.

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CORROSION PREVENTION SYSTEM--A COATING SYSTEM APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT PROVIDES CORROSION PROTECTION BY DISPLACING WATER AND PENETRATING MATING SURFACES, FORMING A PROTECTIVE BARRIER BETWEEN THE METAL SURFACE AND

MOISTURE. COATINGS CONTAINING OILS OR WAXES ARE EXCLUDED FROM THIS CATEGORY.

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CRITICAL USE AND LINE SEALER MASKANT--A TEMPORARY COATING APPLIED TO AEROSPACE VEHICLES OR COMPONENTS, NOT COVERED UNDER OTHER MASKANT CATEGORIES, USED TO PROTECT SELECTED AREAS OF AEROSPACE PARTS FROM STRONG ACID OR ALKALINE SOLUTIONS SUCH AS THOSE USED IN ANODIZING, PLATING, CHEMICAL MILLING AND PROCESSING OF MAGNESIUM, TITANIUM, OR HIGH STRENGTH STEEL, HIGH PRECISION ALUMINUM CHEMICAL MILLING OF DEEP CUTS, AND ALUMINUM CHEMICAL MILLING OF COMPLEX SHAPES. MATERIALS USED FOR REPAIRS OR TO BRIDGE GAPS LEFT BY SCRIBING OPERATIONS (I.E., LINE SEALER) ARE ALSO INCLUDED IN THIS CATEGORY.

CRYOGENIC FLEXIBLE PRIMER-- A PRIMER APPLIED TO AEROSPACE VEHICLES OR COMPONENTS DESIGNED TO PROVIDE CORROSION RESISTANCE, FLEXIBILITY, AND ADHESION OF SUBSEQUENT COATING SYSTEMS WHEN EXPOSED TO LOADS UP TO AND SURPASSING THE YIELD POINT OF THE SUBSTRATE AT CRYOGENIC TEMPERATURES (-275°F AND BELOW).

CRYOPROTECTIVE COATING--A COATING APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT INSULATES CRYOGENIC OR SUBCOOLED SURFACES TO LIMIT PROPELLANT BOIL-OFF, MAINTAIN STRUCTURAL INTEGRITY OF METALLIC STRUCTURES DURING ASCENT OR RE-ENTRY, AND PREVENT ICE FORMATION.

CYANOACRYLATE ADHESIVE--A FAST-SETTING, SINGLE COMPONENT ADHESIVE THAT CURES AT ROOM TEMPERATURE. ALSO KNOWN AS "SUPER GLUE."

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ELECTRIC OR RADIATION-EFFECT COATING--A COATING OR COATING SYSTEM APPLIED TO AEROSPACE VEHICLES OR COMPONENTS ENGINEERED TO INTERACT, THROUGH ABSORPTION OR REFLECTION, WITH SPECIFIC REGIONS OF THE ELECTROMAGNETIC ENERGY SPECTRUM, SUCH AS THE ULTRAVIOLET, VISIBLE, INFRARED, OR MICROWAVE REGIONS. USES INCLUDE, BUT ARE NOT LIMITED TO, LIGHTNING STRIKE PROTECTION, ELECTROMAGNETIC PULSE (EMP) PROTECTION, AND RADAR AVOIDANCE. COATINGS THAT HAVE BEEN DESIGNATED "CLASSIFIED" BY THE DEPARTMENT OF DEFENSE ARE EXCLUDED FROM THIS CATEGORY.

ELECTROSTATIC DISCHARGE AND ELECTROMAGNETIC INTERFERENCE (EMI) COATING--A COATING APPLIED TO SPACE VEHICLES, MISSILES, AIRCRAFT RADOMES, AND HELICOPTER BLADES TO DISPERSE STATIC ENERGY OR REDUCE ELECTROMAGNETIC INTERFERENCE.

ELEVATED TEMPERATURE SKYDROL RESISTANT COMMERCIAL PRIMER-- A PRIMER, APPLIED PRIMARILY TO COMMERCIAL AIRCRAFT (OR COMMERCIAL AIRCRAFT ADAPTED FOR MILITARY USE), THAT MUST WITHSTAND IMMERSION IN PHOSPHATE-ESTER (PE) HYDRAULIC FLUID (SKYDROL 500B OR EQUIVALENT) AT THE ELEVATED TEMPERATURE OF 150°F FOR 1,000 HOURS.

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EPOXY POLYAMIDE TOPCOAT--A COATING APPLIED TO AEROSPACE VEHICLES OR COMPONENTS WHEN HARDER FILMS ARE REQUIRED OR IN SOME AREAS WHERE ENGRAVING IS ACCOMPLISHED IN CAMOUFLAGE COLORS.

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EXEMPT SOLVENT--SPECIFIED ORGANIC COMPOUNDS THAT HAVE BEEN DESIGNATED BY THE EPA AS HAVING NEGLIGIBLE PHOTOCHEMICAL REACTIVITY AND ARE LISTED IN 40 CFR 51.100.

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FIRE-RESISTANT (INTERIOR) COATING--FOR CIVILIAN AIRCRAFT, FIRE-RESISTANT INTERIOR COATINGS ARE USED ON PASSENGER CABIN INTERIOR PARTS THAT ARE SUBJECT TO THE FAA FIREWORTHINESS REQUIREMENTS. FOR MILITARY AIRCRAFT, FIRE-RESISTANT INTERIOR COATINGS ARE USED ON PARTS THAT ARE SUBJECT TO THE FLAMMABILITY REQUIREMENTS OF MIL-STD-1630A AND MIL-A-87721. FOR SPACE APPLICATIONS, THESE COATINGS ARE USED ON PARTS THAT ARE SUBJECT TO THE FLAMMABILITY REQUIREMENTS OF SE-R-0006 AND SSP 30233.

FLEXIBLE PRIMER--A PRIMER APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT MEETS FLEXIBILITY REQUIREMENTS SUCH AS THOSE NEEDED FOR ADHESIVE BOND PRIMED FASTENER HEADS OR ON SURFACES EXPECTED TO CONTAIN FUEL. THE FLEXIBLE COATING IS REQUIRED BECAUSE IT PROVIDES A COMPATIBLE, FLEXIBLE SUBSTRATE OVER BONDED SHEET RUBBER AND RUBBER-TYPE COATINGS AS WELL AS A FLEXIBLE BRIDGE BETWEEN THE FASTENERS, SKIN, AND SKIN-TO-SKIN JOINTS ON OUTER AIRCRAFT SKINS. THIS FLEXIBLE BRIDGE ALLOWS MORE TOPCOAT FLEXIBILITY AROUND FASTENERS AND DECREASES THE CHANCE OF THE TOPCOAT CRACKING AROUND THE FASTENERS. THE RESULT IS BETTER CORROSION RESISTANCE.

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FLIGHT TEST COATING--A COATING APPLIED TO AIRCRAFT OTHER THAN MISSILES OR SINGLE-USE AIRCRAFT PRIOR TO FLIGHT TESTING TO PROTECT THE AIRCRAFT FROM CORROSION AND TO PROVIDE REQUIRED MARKING DURING FLIGHT TEST EVALUATION.

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FLUSH CLEANING--REMOVAL OF CONTAMINANTS SUCH AS DIRT, GREASE, OIL, AND COATINGS FROM AN AEROSPACE VEHICLE OR COMPONENT OR COATING EQUIPMENT BY PASSING SOLVENT OVER, INTO, OR THROUGH THE ITEM BEING CLEANED. THE SOLVENT SIMPLY MAY BE POURED INTO THE ITEM BEING CLEANED AND THEN DRAINED OR ASSISTED BY AIR OR HYDRAULIC PRESSURE OR BY PUMPING. HAND-WIPE CLEANING OPERATIONS WHERE WIPING, SCRUBBING, MOPPING, OR OTHER HAND ACTION ARE USED ARE NOT INCLUDED.

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FUEL TANK ADHESIVE--AN ADHESIVE USED TO BOND AEROSPACE VEHICLE COMPONENTS EXPOSED TO FUEL AND WHICH MUST BE COMPATIBLE WITH FUEL TANK COATINGS.

FUEL TANK COATING--A COATING APPLIED TO AEROSPACE VEHICLE FUEL TANK COMPONENTS FOR THE PURPOSE OF CORROSION AND/OR BACTERIAL GROWTH INHIBITION AND TO ASSURE SEALANT ADHESION IN EXTREME ENVIRONMENTAL CONDITIONS.

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HAND-WIPE CLEANING OPERATION--REMOVING CONTAMINANTS SUCH AS DIRT, GREASE, OIL, AND COATINGS FROM AN AEROSPACE VEHICLE OR COMPONENT BY PHYSICALLY RUBBING IT WITH A MATERIAL SUCH AS A RAG, PAPER, OR COTTON SWAB THAT HAS BEEN MOISTENED WITH A CLEANING SOLVENT.

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HIGH TEMPERATURE COATING—AN AEROSPACE VEHICLE OR COMPONENT COATING DESIGNED TO WITHSTAND TEMPERATURES OF MORE THAN 350°F.

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INSULATION COVERING--MATERIAL THAT IS APPLIED TO FOAM INSULATION TO PROTECT THE INSULATION FROM MECHANICAL OR ENVIRONMENTAL DAMAGE.

INTERMEDIATE RELEASE COATING--A THIN COATING APPLIED BENEATH TOPCOATS ON AEROSPACE VEHICLES OR COMPONENTS TO ASSIST IN REMOVING THE TOPCOAT IN DEPAINTING OPERATIONS AND GENERALLY TO ALLOW THE USE OF LESS HAZARDOUS DEPAINTING METHODS.

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LACQUER--A CLEAR OR PIGMENTED COATING FORMULATED WITH A NITROCELLULOSE OR SYNTHETIC RESIN TO DRY BY EVAPORATION WITHOUT A CHEMICAL REACTION. LACQUERS ARE RESOLUBLE IN THEIR ORIGINAL SOLVENT.

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LIMITED ACCESS SPACE--INTERNAL SURFACES OR PASSAGES OF AN AEROSPACE VEHICLE OR COMPONENT TO WHICH COATINGS CANNOT BE APPLIED WITHOUT THE AID OF AN AIRBRUSH OR A SPRAY GUN EXTENSION FOR THE APPLICATION OF COATINGS.

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METALIZED EPOXY COATING--A COATING APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT CONTAINS RELATIVELY LARGE QUANTITIES OF METALLIC PIGMENTATION FOR APPEARANCE AND/OR ADDED PROTECTION.

Miscellaneous metal parts and products--Items made of ferrous or nonferrous metals, including, but not limited to, large farm machinery, small farm machinery, small appliances, commercial and industrial machinery, fabricated metal products, and items listed under the Standard Industrial Classification Code 3300 through 3900. The term does not include cans, coils, automobiles, light-duty trucks, metal furniture, magnet wire, large appliances, AEROSPACE VEHICLES OR COMPONENTS,[fully assembled exteriors of airplanes] and automobile refinishing and customized top coating of automobiles and trucks, if production since January 1, 1987, has not exceeded 34 vehicles per day.

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MOLD RELEASE--A COATING APPLIED TO AN AEROSPACE VEHICLE OR COMPONENT MOLD SURFACE TO PREVENT THE MOLDED PIECE FROM STICKING TO THE MOLD AS IT IS REMOVED.

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NONSTRUCTURAL ADHESIVE--AN ADHESIVE APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT BONDS NONLOAD BEARING AEROSPACE COMPONENTS IN NONCRITICAL APPLICATIONS AND IS NOT INCLUDED IN ANY OTHER SPECIALTY ADHESIVE CATEGORIES.

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OPERATING PARAMETER VALUE--A MINIMUM OR MAXIMUM VALUE ESTABLISHED FOR A CONTROL EQUIPMENT OR PROCESS PARAMETER THAT, IF ACHIEVED BY ITSELF OR IN COMBINATION WITH ONE OR MORE OTHER OPERATING PARAMETER VALUES, DETERMINES THAT AN OWNER OR OPERATOR HAS COMPLIED WITH AN APPLICABLE EMISSION LIMITATION.

OPTICAL ANTIREFLECTION COATING--A COATING, APPLIED TO AEROSPACE VEHICLES OR COMPONENTS, WITH A LOW REFLECTANCE IN THE INFRARED AND VISIBLE WAVELENGTH RANGES THAT IS USED FOR ANTIREFLECTION ON OR NEAR OPTICAL AND LASER HARDWARE.

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PART MARKING COATING--COATING OR INK USED TO MAKE IDENTIFYING MARKINGS ON AEROSPACE MATERIALS, COMPONENTS, AND ASSEMBLIES. THESE MARKINGS MAY BE EITHER PERMANENT OR TEMPORARY.

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PRETREATMENT COATING--AN ORGANIC COATING THAT CONTAINS AT LEAST 0.5 PERCENT ACIDS BY WEIGHT AND IS APPLIED DIRECTLY TO METAL SURFACES OF AEROSPACE VEHICLES AND COMPONENTS TO PROVIDE SURFACE ETCHING, CORROSION RESISTANCE, ADHESION, AND EASE OF STRIPPING.

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RADOME--THE NONMETALLIC PROTECTIVE HOUSING FOR AEROSPACE ELECTROMAGNETIC TRANSMITTERS AND RECEIVERS (E.G., RADAR, ELECTRONIC COUNTERMEASURES).

RAIN EROSION-RESISTANT COATING--A COATING OR COATING SYSTEM USED TO PROTECT THE LEADING EDGES OF PARTS SUCH AS FLAPS, STABILIZERS, RADOMES, AND ENGINE INLET NACELLES AGAINST EROSION CAUSED BY RAIN IMPACT DURING FLIGHT.

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ROCKET MOTOR BONDING ADHESIVE--AN ADHESIVE USED IN ROCKET MOTOR BONDING APPLICATIONS.

ROCKET MOTOR NOZZLE COATING--A CATALYZED EPOXY COATING SYSTEM USED IN ELEVATED TEMPERATURE APPLICATIONS ON ROCKET MOTOR NOZZLES.

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RUBBER-BASED ADHESIVE—A QUICK SETTING CONTACT CEMENT APPLIED TO AEROSPACE VEHICLES AND COMPONENTS THAT PROVIDES A STRONG, YET FLEXIBLE, BOND BETWEEN TWO MATING SURFACES THAT MAY BE OF DISSIMILAR MATERIALS.

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SCALE INHIBITOR--A COATING THAT IS APPLIED TO THE SURFACE OF AN AEROSPACE VEHICLE COMPONENT PRIOR TO THERMAL PROCESSING TO INHIBIT THE FORMATION OF SCALE.

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SCREEN PRINT INK—AN INK USED IN SCREEN PRINTING PROCESSES DURING FABRICATION OF DECORATIVE LAMINATES AND DECALS FOR AEROSPACE VEHICLES AND COMPONENTS.

SEALANT--A MATERIAL USED TO PREVENT THE INTRUSION OF WATER, FUEL, AIR, OR OTHER LIQUIDS OR SOLIDS FROM CERTAIN AREAS OF AEROSPACE VEHICLES OR COMPONENTS. THERE ARE TWO CATEGORIES OF SEALANTS: EXTRUDABLE/ROLLABLE/BRUSHABLE SEALANTS AND SPRAYABLE SEALANTS.

SEAL COAT MASKANT--A COATING APPLIED OVER A MASKANT ON AEROSPACE VEHICLES AND COMPONENTS TO IMPROVE ABRASION AND CHEMICAL RESISTANCE DURING PRODUCTION OPERATIONS.

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SELF-PRIMING TOPCOAT--A TOPCOAT THAT IS APPLIED DIRECTLY TO AN UNCOATED AEROSPACE VEHICLE OR COMPONENT FOR PURPOSES OF CORROSION PREVENTION, ENVIRONMENTAL PROTECTION, AND FUNCTIONAL FLUID RESISTANCE. MORE THAN ONE LAYER OF IDENTICAL COATING FORMULATION MAY BE APPLIED TO THE VEHICLE OR COMPONENT. THE COATING IS NOT SUBSEQUENTLY TOPCOATED WITH ANY OTHER PRODUCT FORMULATION.

SEMIAQUEOUS CLEANING SOLVENT--A SOLUTION IN WHICH WATER IS A PRIMARY INGREDIENT (>60 PERCENT BY WEIGHT OF THE SOLVENT SOLUTION AS APPLIED MUST BE WATER.)

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SILICONE INSULATION MATERIAL--AN INSULATING MATERIAL APPLIED TO EXTERIOR METAL SURFACES OF AEROSPACE VEHICLES FOR PROTECTION FROM HIGH TEMPERATURES CAUSED BY ATMOSPHERIC FRICTION OR ENGINE EXHAUST. THESE MATERIALS DIFFER FROM ABLATIVE COATINGS IN THAT THEY ARE NOT "SACRIFICIAL."

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SOLIDS--THE NONVOLATILE PORTION OF THE COATING THAT AFTER DRYING MAKES UP THE DRY FILM.

SOLID FILM LUBRICANT--A VERY THIN COATING, APPLIED TO AEROSPACE VEHICLES OR COMPONENTS, CONSISTING OF A BINDER SYSTEM WHICH CONTAINS AS ITS CHIEF PIGMENT MATERIAL ONE OR MORE OF THE FOLLOWING: MOLYBDENUM, GRAPHITE, POLYTETRAFLUOROETHYLENE (PTFE), OR OTHER SOLIDS THAT ACT AS A DRY LUBRICANT BETWEEN FAYING SURFACES.

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SPACE VEHICLE--A MAN-MADE DEVICE, EITHER MANNED OR UNMANNED, DESIGNED FOR OPERATION BEYOND EARTH'S ATMOSPHERE. THIS DEFINITION INCLUDES INTEGRAL EQUIPMENT SUCH AS MODELS, MOCK-UPS, PROTOTYPES, MOLDS, JIGS, TOOLING, HARDWARE JACKETS, AND TEST COUPONS. ALSO INCLUDED IS AUXILIARY EQUIPMENT ASSOCIATED WITH TEST, TRANSPORT, AND STORAGE, THAT THROUGH CONTAMINATION CAN COMPROMISE THE SPACE VEHICLE PERFORMANCE.

SPECIALTY COATING--A COATING APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT, EVEN THOUGH IT MEETS THE DEFINITION OF A PRIMER, TOPCOAT, OR SELF-PRIMING TOPCOAT, HAS ADDITIONAL PERFORMANCE CRITERIA BEYOND THOSE OF PRIMERS, TOPCOATS, AND SELF-PRIMING TOPCOATS FOR SPECIFIC APPLICATIONS. THESE PERFORMANCE CRITERIA MAY INCLUDE, BUT ARE NOT LIMITED TO, TEMPERATURE OR FIRE RESISTANCE, SUBSTRATE COMPATIBILITY, ANTIREFLECTION, TEMPORARY PROTECTION OR MARKING, SEALING, ADHESIVELY JOINING SUBSTRATES, OR ENHANCED CORROSION PROTECTION.

SPECIALIZED FUNCTION COATING--A COATING APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT FULFILLS EXTREMELY SPECIFIC ENGINEERING REQUIREMENTS THAT ARE LIMITED IN APPLICATION AND ARE CHARACTERIZED BY LOW VOLUME USAGE. THIS CATEGORY EXCLUDES COATINGS INCLUDED IN OTHER SPECIALTY COATING CATEGORIES.

SPRAY GUN-- A DEVICE THAT ATOMIZES A COATING OR OTHER MATERIAL AND PROJECTS THE PARTICULATES OR OTHER MATERIAL ONTO A SUBSTRATE.

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STRUCTURAL AUTOCLAVABLE ADHESIVE--AN ADHESIVE, CURED BY HEAT AND PRESSURE IN AN AUTOCLAVE, THAT IS USED TO BOND LOAD CARRYING AEROSPACE COMPONENTS.

STRUCTURAL NONAUTOCLAVABLE ADHESIVE--AN ADHESIVE THAT IS CURED UNDER AMBIENT CONDITIONS THAT IS USED TO BOND LOAD CARRYING AEROSPACE COMPONENTS OR OTHER CRITICAL FUNCTIONS, SUCH AS NONSTRUCTURAL BONDING IN THE PROXIMITY OF ENGINES.

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TEMPORARY PROTECTIVE COATING--A COATING APPLIED TO PROVIDE SCRATCH OR CORROSION PROTECTION DURING MANUFACTURING, STORAGE, OR TRANSPORTATION OF AEROSPACE VEHICLES OR COMPONENTS. TWO TYPES INCLUDE PEELABLE PROTECTIVE COATINGS AND ALKALINE REMOVABLE COATINGS. THESE MATERIALS ARE NOT INTENDED TO PROTECT AGAINST STRONG ACID OR ALKALINE SOLUTIONS. COATINGS THAT PROVIDE PROTECTION FROM ACID OR ALKALINE CHEMICAL PROCESSING ARE NOT INCLUDED IN THIS CATEGORY.

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THERMAL CONTROL COATING--A COATING FORMULATED WITH SPECIFIC THERMAL CONDUCTIVE OR RADIATIVE PROPERTIES TO PERMIT TEMPERATURE CONTROL OF THE AEROSPACE VEHICLE OR COMPONENT SUBSTRATE.

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TOUCH-UP AND REPAIR OPERATION--THAT PORTION OF THE COATING OPERATION THAT IS THE INCIDENTAL APPLICATION OF COATING USED TO COVER MINOR IMPERFECTIONS IN THE COATING FINISH OR TO ACHIEVE COMPLETE COVERAGE. THIS DEFINITION INCLUDES OUT-OF-SEQUENCE OR OUT-OF-CYCLE COATING.

TYPE I CHEMICAL ETCHANT—A CHEMICAL MILLING ETCHANT WHICH CONTAINS VARYING AMOUNTS OF DISSOLVED SULFUR BUT WHICH DOES NOT CONTAIN AMINES.

TYPE II CHEMICAL ETCHANT—A CHEMICAL MILLING ETCHANT THAT IS A STRONG SODIUM HYDROXIDE SOLUTION CONTAINING AMINES.

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VOC COMPOSITE VAPOR PRESSURE--THE SUM OF THE PARTIAL PRESSURES OF THE COMPOUNDS DEFINED AS VOC'S AND IS DETERMINED BY THE FOLLOWING CALCULATION:

$$PPc = \sum_{i=1}^{n} \frac{(Wi)(VPi / MWi)}{\frac{Ww}{MWw} + \frac{We}{MWe} + \sum_{i=1}^{n} \frac{Wi}{MWi}}$$

where:

Wi = WEIGHT OF THE "i"TH VOC COMPOUND, GRAMS.

Ww = WEIGHT OF WATER, GRAMS.

We = WEIGHT OF NON-HAP, NONVOC COMPOUND, GRAMS.

MWi = MOLECULAR WEIGHT OF THE "i"TH VOC COMPOUND, G/G-MOLE.

MWw = MOLECULAR WEIGHT OF WATER, G/G-MOLE.

MWe = MOLECULAR WEIGHT OF EXEMPT COMPOUND, G/G-MOLE.

PPc = VOC COMPOSITE PARTIAL PRESSURE AT 20°, MM HG.

VPi = VAPOR PRESSURE OF THE "i"TH VOC COMPOUND AT 20°, MM HG.

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WATERBORNE (WATER-REDUCIBLE) COATING--A COATING WHICH CONTAINS MORE THAN 5 PERCENT WATER BY WEIGHT IN ITS VOLATILE FRACTION, AS APPLIED.

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WET FASTENER INSTALLATION COATING--A PRIMER OR SEALANT APPLIED TO AEROSPACE VEHICLES OR COMPONENTS BY DIPPING, BRUSHING, OR DAUBING ON FASTENERS WHICH ARE INSTALLED BEFORE THE COATING IS CURED.

WING COATING--A CORROSION-RESISTANT TOPCOAT APPLIED TO AEROSPACE VEHICLES OR COMPONENTS THAT IS RESILIENT ENOUGH TO WITHSTAND THE FLEXING OF THE WINGS.

CHAPTER 129. STANDARDS FOR SOURCES

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SOURCES OF VOC

§129.51. General.

(a) Equivalency. Compliance with the requirements of §§129.52 and 129.54--129.[72]73 may be achieved by alternative methods if the following exist:

(1) The alternative method is approved by the Department in an applicable operating permit.

(2) The resulting emissions are equal to or less than the emissions that would have been discharged by complying with the applicable emission limitation.

(3) Compliance by a method other than the use of a low VOC coating or ink which meets the applicable emission limitation in §§129.52, [and]129.67, AND 129.73 (relating to surface coating processes;[and] graphic arts systems; AND AEROSPACE MANUFACTURING AND REWORK) shall be determined on the basis of equal volumes of solids.

(4) Capture efficiency testing and emissions testing are conducted in accordance with methods approved by the EPA.

(5) Adequate records are maintained to ensure enforceability.

(6) The alternative compliance method is [approved] INCORPORATED INTO A PLAN APPROVAL AND OPERATING PERMIT REVIEWED by the EPA[as a revision to the State Implementation Plan], including the use of an air cleaning device to comply with §129.52, §129.67, [or] §129.68(b)(2) and (c)(2)[.], OR §129.73.

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(EDITOR'S NOTE: The following section is new and is printed in regular type to enhance readability.)

§129.73. Aerospace Manufacturing and Rework

(a) Except as provided in paragraph (a)(1) the requirements of this subsection apply to the manufacture or rework of commercial, civil, or military aerospace vehicles or components at any facility located in any county designated as a severe nonattainment area and which has the potential to emit 25 tons per year of VOC's or more or located in any other county in the State and that has the potential to emit 50 tons per year or more.

(1) The provisions of this section do not apply to cleaning and coating of aerospace components and vehicles:

(i) At any source conducting research and development for such research and development acivities;

(ii) For quality control and laboratory testing;

(iii) For production of electronic parts and assemblies (except for cleaning and coating of completed assemblies);

(iv) For rework operations performed on antique aerospace vehicles or components;

(v) Using touchup, aerosol, and Department of Defense "classified" coatings;

(vi) Coating of space vehicles; and,

(vii) At facilities that use separate formulations in volumes less than 50 gallons per year to a maximum exemption of 200 gallons total for these formulations annually.

(2) Beginning _____ **(EDITOR'S NOTE: The blank refers to the date of publication of the final rulemaking in the *Pennsylvania Bulletin*.)** a person shall not apply to aerospace vehicles or components any aerospace specialty coatings, primers, topcoats, and chemical milling maskants including any VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOC's in excess of the limits specified in Table II.

TABLE II

Allowable Content of VOCs in Aerospace Coatings
Allowable VOC Content

Weight of VOC Per Volume of Coating (Minus Water and Exempt Solvents)

	LIMIT	
COATING TYPE	*POUNDS PER GALLON*	*GRAMS PER LITER*
Specialty Coatings		
(1) Ablative Coating	5.0	600
(2) Adhesion Promoter	7.4	890
(3) Adhesive Bonding Primers:		
(a) Cured at 250°F or below	7.1	850
(b) Cured above 250°F	8.6	1,030
(4) Adhesives:		
(a) Commercial Interior Adhesive	6.3	760
(b) Cyanoacrylate Adhesive	8.5	1,020
(c) Fuel Tank Adhesive	5.2	620
(d) Nonstructural Adhesive	3.0	360
(e) Rocket Motor Bonding Adhesive	7.4	890
(f) Rubber-Based Adhesive	7.1	850
(g) Structural Autoclavable Adhesive	0.5	60
(h) Structural Nonautoclavable Adhesive	7.1	850
(5) Antichafe Coating	5.5	660
(6) Chemical Agent-Resistant Coating	4.6	550
(7) Clear Coating	6.0	720
(8) Commercial Exterior Aerodynamic Structure Primer	5.4	650
(9) Compatible Substrate Primer	6.5	780
(10) Corrosion Prevention Compound	5.9	710
(11) Cryogenic Flexible Primer	5.4	645
(12) Cryoprotective Coating	5.0	600

(13) Electric or Radiation-Effect Coating	6.7	800
(14) Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	6.7	800
(15) Elevated Temperature Skydrol Resistant Commercial Primer	6.2	740
(16) Epoxy Polyamide Topcoat	5.5	660
(17) Fire-Resistant (Interior) Coating	6.7	800
(18) Flexible Primer	5.4	640
(19) Flight-Test Coatings:		
(a) Missile or Single Use Aircraft	3.5	420
(b) All Other	7.0	840
(20) Fuel-Tank Coating	6.0	720
(a) High-Temperature Coating	7.1	850
(21) Insulation Covering	6.2	740
(22) Intermediate Release Coating	6.2	750
(23) Lacquer	6.9	830
(24) Maskants:		
(a) Bonding Maskant	10.2	1,230
(b) Critical Use and Line Sealer Maskant	8.6	1,020
(c) Seal Coat Maskant	10.2	1,230
(25) Metallized Epoxy Coating	6.2	740
(26) Mold Release	6.5	780
(27) Optical Anti-Reflective Coating	6.2	750
(28) Part Marking Coating	7.1	850
(29) Pretreatment Coating	6.5	780
(30) Rain Erosion-Resistant Coating	7.1	850
(31) Rocket Motor Nozzle Coating	5.5	660
(32) Scale Inhibitor	7.3	880
(33) Screen Print Ink	7.0	840
(34) Sealants:		
(a) Extrudable/Rollable/Brushable Sealant	2.0	240
(b) Sprayable Sealant	5.0	600
(35) Self-Priming Topcoat	3.5	420
(36) Silicone Insulation Material	7.1	850
(37) Solid Film Lubricant	7.3	880
(38) Specialized Function Coating	7.4	890
(39) Temporary Protective Coating	2.7	320
(40) Thermal Control Coating	6.7	800
(41) Wet Fastener Installation Coating	5.6	675
(42) Wing Coating	7.1	850

Primers, Topcoals, and Chemical Milling Maskants			
(1)	Primers	2.9	350
(2)	Topcoats	3.5	420
(3)	Chemical Milling Maskants (Type I/II)	1.3	160

(3) The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds shall be calculated by the following equation:

$$VOC = \frac{(Wv - Ww - Wex)(Dc)}{100\% - (Ww)(Dc/Dw) - (Wex)\,Dc/Dex)}$$

Where

VOC = VOC content in grams per liter (g/l) of coating less water and exempt solvents,

Wo = Weight of organic volatiles, % (Wv-Ww-Wex),

Wv = Weight of total volatiles, % (100% - Weight % Nonvolatiles),

Ww = Weight of water, %,

Wex = Weight of exempt solvent, %,

Vw = Volume of water,

Vex = Volume of exempt solvent, %,

Dc = Density of coating, g/l at 25° C,

Dw = Density of water, 0.997×10^{3} g/l at 25° C, and

Dex = Density of exempt solvent, g/l, at 25° C

To convert from grams per liter (g/l)to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345×10^{-3} (lb/gal/g/l).

(4) Except as provided in paragraph (5), beginning _____

(EDITOR'S NOTE: The blank refers to the date of publication of the final rulemaking in

the *Pennsylvania Bulletin*.) A person shall use one or more of the following application techniques in applying any primer or topcoat to aerospace vehicles or components: flow/curtain coat; dip coat; roll coating; brush coating; cotton-tipped swab application; electrodeposition (DIP) coating; high volume low pressure (HVLP) spraying; electrostatic spray; or other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods.

(5) The following situations are exempt from application equipment requirements listed in paragraph (4):

(i) The use of an airbrush or an extension on the spray gun to properly apply coatings to limited access spaces;

(ii) The application of specialty coatings;

(iii) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the applicant has demonstrated and the department has determined cannot be applied by any of the application methods specified in section (a)(4);

(iv) The application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) when the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in section (a)(4);

(v) The use of airbrush application methods for stenciling, lettering, and other identification markings;

(vi) The use of hand-held spray can application methods; and

(vii) Touch-up and repair operations.

(6) Except as provided in paragraph (7), beginning _____ **(EDITOR'S NOTE: The blank refers to the date of publication of the final rulemaking in the *Pennsylvania Bulletin*.)** A person shall not use solvents for hand-wipe cleaning of aerospace vehicles or components unless the cleaning solvents:

(i) Meet the definition of aqueous cleaning solvent in section 121.1, or

(ii) Have a VOC composite vapor pressure less than or equal to 45 millimeters (MM HG) at 20°C.

(7) The following aerospace vehicle and component solvent cleaning operations are exempt from the requirements in subparagraph (6):

(i) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(ii) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, hydrazine);

(iii) Cleaning and surface activation prior to adhesive bonding;

(iv) Cleaning of electronics parts and assemblies containing electronics parts;

(v) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(vi) Cleaning of fuel cells, fuel tanks, and confined spaces;

(vii) Surface cleaning of solar cells, coated optics, and thermal control surfaces;

(viii) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in or on the interior of the aircraft;

(ix) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(x) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(xi) Cleaning and solvent usage associated with research and development, quality control, or laboratory testing;

(xii) Cleaning operations, using nonflammable liquids, conducted within 5 feet of any alternating current (AC) or direct current (DC) electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and,

(xiii) Cleaning operations identified in an essential use waiver under section 604(d)(1) of the Clean Air Act, 42 U.S.C.§7671c(d)(1) or a fire suppression or explosion

prevention waiver under section 604(g)(1) of the Clean Air Act, 42 U.S.C.§7671c(g)(1) which has been reviewed and approved by the U.S. EPA and the voting parties of the International Montreal Protocol Committee.

(8) Cleaning solvents (except for semiaqueous cleaning solvents) used in the flush cleaning of aerospace vehicles, components, parts, and assemblies, and coating unit components, must be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers which comply with the housekeeping requirements of (a)(10). Aqueous cleaning solvents are exempt from these requirements.

(9) Spray guns used to apply aerospace coatings must be cleaned by:

(i) An enclosed spray gun cleaning system that is kept closed when not in use. Leaks must be repaired within 14 days from when the leak is first discovered. Each owner or operator using an enclosed spray gun cleaner shall visually inspect the seals and all other potential sources of leaks at least once per month. Each inspection shall occur while the spray gun cleaner is in operation. If the leak is not repaired by the 15th day after detection, the solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued;

(ii) Unatomized discharge of solvent into a waste container that is kept closed when not in use;

(iii) Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use, or;

(iv) Atomized spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

(10) The owner or operator of an affected facility shall implement the following housekeeping measures for cleaning solvents.

(i) All fresh and used cleaning solvents, except aqueous and semiaqueous cleaning solvents, used in solvent cleaning operations shall be stored in nonabsorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying.

(ii) Cloth and paper, or other absorbent applicators, moistened with cleaning solvents, except aqueous cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers. cotton-tipped swabs used for very small cleaning operations are exempt.

(iii) Handling and transfer procedures shall minimize spills during filling and transferring the cleaning solvent, except aqueous cleaning solvents, to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or used cleaning solvents.

(11) The owner or operator of an affected facility may comply with the provisions of this section by using approved air pollution control equipment provided that:

(i) The control system has combined VOC emissions capture and control equipment efficiency of at least 81 percent by weight; and

(ii) The owner or operator received approval from the Department of a monitoring plan that specifies the applicable operating parameter value, or range of values, to ensure ongoing compliance with this section. The monitoring device shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications and the Department's approval.

(ii) The owner or operator shall record monitoring parameters as specified in the approved monitoring plan.

(12) The owner or operator of an affected facility shall maintain records in accordance with §129.51 and §129.52 including:

(i) A current list of coatings in use categorized in accordance with Table II showing VOC content as applied and usage on an annual basis.

(ii) A current list of cleaning solvents used and annual usage for hand wiping solvents including the water content of aqueous and semiaqueous solvents and the vapor pressure and composite vapor pressure of all vapor pressure compliant solvents and solvent blends.

(iii) A current list and annual usage information for exempt hand-wipe cleaning solvents with a vapor pressure greater than 45 millimeters of mercury (MM HG) used in exempt hand-wipe cleaning operations.

Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063
August 12, 1997

The Secretary

Mr. Robert E. Nyce
Executive Director
Independent Regulatory Review Commission
14th Floor, Harristown II
Harrisburg, PA 17101

RE: Proposed Rulemaking - Equivalency Determinations and Aerospace Manufacturing and Rework VOC Emission Limitations (#7-326)

Dear Bob:

Enclosed is a copy of a proposed regulation for review by the Independent Regulatory Review Commission pursuant to the Regulatory Review Act. Section 5(b)(3) of the Act provides that the Commission shall have 30 calendar days from the closing date of the public comment period to notify the Department of any objections.

The Department of Environmental Protection will provide the Commission with any assistance it may require to facilitate the review of this proposed regulation. If you have any questions regarding this proposal, please contact Sharon Freeman, Regulatory Coordinator, at 783-1303.

Sincerely,

James M. Seif
Secretary

Enclosure

TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE REGULATORY REVIEW ACT

I.D. NUMBER: 7-326

SUBJECT: Equivalency Determinations and Aerospace Manufacturing and Rework - VOC Emission Limitations

AGENCY: Department of Environmental Protection

TYPE OF REGULATION

X Proposed Regulation

Final Regulation

Final Regulation with Notice of Proposed Rulemaking Omitted

120-day Emergency Certification of the Attorney General

120-day Emergency Certification of the Governor

FILING OF REGULATION

DATE	SIGNATURE	DESIGNATION
8-12-97	Lori Comp	HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
8-12-97		SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
8/12/97		INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL
8/12/97	Mayra Steiger	LEGISLATIVE REFERENCE BUREAU

July 31, 1997