

LaFata Enterprises Inc.
Finishing Department Work Practice
Implementation Plan & MIOSHA Safety
Programs
Finishing & Solvent Reclaiming



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Purpose of This Program:

To monitor and document the proper use of chemicals and equipment in an environmentally responsible and safe manner.

To insure our employees' are properly trained to work with the chemicals and equipment utilized in our finishing operations, to provide our customers the most esthetically appealing product possible.

To insure that the residents of Shelby twp, the state of Michigan, the United States of America and the world do not suffer excessive harm to the environment do to improper handling of chemicals or excessive emissions from LaFata Enterprises Inc.

The Programs, Processes, Procedures, Materials and Equipment contained within this document are to be used as the Standard Operating Procedure for all topics contained within it superceding all others.

Chain of Responsibility:

The responsibility for these work practices shall be delegated in the following manner.

- 1) Ultimately the owner of LaFata Enterprises Inc. is responsible to insure this program is implemented and maintained.
- 2) The Plant Manager shall have authority and responsibility to create and modify any or all equipment, materials or procedures as may be necessary in order to keep these practices up to date and viable with the owner's approval. Under no circumstances may anyone other than the plant manager change a procedure, material, or equipment utilized by LaFata Enterprises Inc.
- 3) Production Manager shall have authority and responsibility to recommend changes to the plant manager as well as enforce the procedures and practices plant wide.
- 4) Safety & Training Coordinator shall have the responsibility of keeping all records and documentation. Scheduling required training classes with the Section Leaders, Production Manager and Plant Manager as may be required to get the training accomplished as well as scheduling any required medical or equipment tests that may be required.
- 5) Section Leaders shall have authority and responsibility to enforce the procedures and practices within their departments as well as the responsibility for recommending changes if needed but abiding by the procedures as written until the changes have been formally made and approved by the plant manager.
- 6) Employees are responsible for following these procedures to the letter everyday. They are also required to listen intently during training classes and pass proficiency testing procedures required to fulfill the responsibilities of their position.

Lafata will comply with the following requirements of 40 CFR Part 63 subpart jj

Program requirements/training

- 1 Create and Maintain a “work practice standard”. There are 12 components of the plan.
 - a) Work implementation plan
 - i) Develop a work practice implementation plan that defines how the other 11 components of the work practice standard will be implemented.
 - (1) Operator training program
 - (a) Train all personnel that are involved in finishing, gluing, cleaning and washoff operations.
 - (i) Use of manufacturing equipment
 - (ii) Set-up and cleaning
 - (iii) Proper techniques
 - (b) Outline of subjects covered in the initial and annual training
 - (c) Lesson plans for the initial training and annual refresher training
 - (d) List of all current employees by name and position that are required to be trained.
 - (e) Describe how the Company will document that the training required was completed.
 - ii) Inspection and Maintenance
 - (1) Prepare a written inspection and maintenance plan
 - (a) An inspection schedule
 - (i) At least once per month visually inspect all equipment and hoses for leaks
 - (b) A method for documenting the date and results of the inspections and any repairs made.
 - (i) Document the time frame between discovering a leak and repairing the leaking equipment.
 1. The first attempt must be completed within five days
 2. Final repairs must be made within 15 days unless the equipment is going to be replaced in which case it must be done within 3 months.
 - iii) Cleaning and Washoff solvent accounting system
 - (1) It is our policy not to washoff parts that require stripping opting instead to sand the finish off the parts. This method can be quicker and easier depending on the object to be stripped. However, since we do custom work in certain unusual circumstances it may become the only way to accomplish the job. In these cases only the following procedure must be followed.
 - (a) Record the quantity and type of organic solvent used each month for washoff and cleaning to include:
 - (i) Number of pieces washed off and reason for washing off.

- (ii) The quantity of spent solvent generated from each washoff and cleaning operation each month
 - (iii) Whether the solvent is recycled on-site or disposed of off-site
- iv) Chemical Composition Requirements
 - (1) Do not use any washoff or cleaning solvents that contain any of the pollutants listed on table 4 of the rule 63.803, in concentrations greater than 1% for noncarcinogenic and 0.1% for carcinogenic VHAPS as required for reporting on the SDS
- v) Spray booth Cleaning Requirements
 - (1) To clean spray booths components other than conveyors, continuous coaters and their enclosures or metal filters. Do not use compounds containing more than 8% by weight of volatile organic compounds, unless the booth is being refurbished.
 - (2) If the spray booth is being refurbished, do not use more than 1.0 gallon of organic solvent per booth to prepare the surface for applying the booth coating.
- vi) Storage Requirements
 - (1) Do not store any finishing materials, contact adhesive cleaning or washoff solvents in an uncovered container.
- vii) Application Equipment Requirements
 - (1) Use conventional air spray guns to apply finishing materials only under the following conditions.
 - (a) To apply finishing materials that has voc content no greater than 1 lb voc/lb of solids as applied.
 - (b) For touchup and repair only if, 1. The touchup and repair occurs after completion of the finishing operation. Or 2. If the touchup and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used for touchup are applied from a container that has a volume of no more than 2.0 gallons.
 - (c) When spray is automated
 - (d) When emissions from the finishing application station are directed to a control device.
 - (e) The conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is no more than 5% of the total gallons of finishing materials used during that semiannual reporting period.
 - (f) The gun is used to apply stain on a part when it is technically or economically infeasible to use any other spray application technology. Documentation is required to support the claim.
- viii) Line Cleaning Requirements
 - (1) Pump or drain all organic solvent used for line cleaning into a closed container.
- ix) Gun Cleaning Requirements
 - (1) Collect the organic solvent used to clean spray guns in a closed container.
- x) Washoff Operations

- (1) Control emissions from washoff operations by using closed tanks for washoff and tilting or rotating the part to drain the solvent as much as possible.

xi) Formulation Assessment Plan

- (a) Prepare a formulation assessment plan for the finishing operations to keep track of volatile hazardous air pollutants (VHAPs). This plan must accomplish all of the following.
- (b) Identify the VHAPs from table 5 of 40 CFR part 63 subpart jj
- (c) Do not exceed the established de minimis level
- (i) Table 5 of 40 CFR Part 63 subpart jj follows:

CAS No.	Chemical name	EPA de minimis, tons/yr
68122	Dimethyl formamide	1
50000	Formaldehyde	0.2
75092	Methylene chloride	4
79469	2-Nitropropane	1
78591	Isophorone	0.7
1000425	Styrene monomer	1
108952	Phenol	0.1
111422	Dimethanolamine	5
109864	2-Methoxyethanol	10
111159	2-Ethoxyethyl acetate	10

- (ii) As of 5-4-12 we use formaldehyde cas #50000 our emission limit of formaldehyde has remained below 0.2 tons and continues below this point. We currently do not use any of the other VHAPS of Potential Concern Identified by Industry from table 5 of 40 CFR 63.803
- (d) Identify the VHAPs of potential concern listed in table 6 of 40 CFR part 63 subpart jj

- (i) 40 CFR Part 63 subpart jj (1)(6) states the following:

1. *If, after November 1998, an affected source uses a VHAP of potential concern listed in table 6 of this subpart for which a baseline level has not been previously established, then the baseline level shall be established as the de minimis level provided in that same table for that chemical. The affected source shall track the annual usage of each VHAP of potential concern identified in this paragraph that is present in amounts subject to SDS reporting as required by OSHA. If usage of the VHAP of potential concern exceeds the de minimis level listed in table 6 of this subpart for that chemical, then the affected source shall provide an explanation to the permitting authority that documents the reason for the exceedance of the de minimis level. If the explanation is not one of those listed in paragraphs*

(l)(4)(i) through (l)(4)(iv) of this section, the affected source shall follow the procedures in paragraph (l)(5) of this section.

(ii) Table 6 of 40 CFR Part 63 subpart jj follows:

CAS No.	Chemical name	EPA de minimis, tons/yr*
92671	4-Aminobiphenyl	1.0
96093	Styrene oxide	1.0
64675	Diethyl sulfate	1.0
59892	N-Nitrosomorpholine	1.0
68122	Dimethyl formamide	1.0
680319	Hexamethylphosphoramide	0.01
60355	Acetamide	1.0
101779	4,4'-Methylenedianiline	1.0
90040	o-Anisidine	1.0
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.00000006
92875	Benzidine	0.00003
684935	N-Nitroso-N-methylurea	0.00002
542881	Bis(chloromethyl) ether	0.00003
79447	Dimethyl carbamoyl chloride	0.002
75558	1,2-Propylenimine (2-Methyl aziridine)	0.0003
57147	1,1-Dimethyl hydrazine	0.0008
96128	1,2-Dibromo-3-chloropropane	0.001
62759	N-Nitrosodimethylamine	0.0001
50328	Benzo (a) pyrene	0.001
1336363	Polychlorinated biphenyls (Aroclors)	0.0009
76448	Heptachlor	0.002
119937	3,3'-Dimethyl benzidine	0.001
79061	Acrylamide	0.002
118741	Hexachlorobenzene	0.004
57749	Chlordane	0.005
1120714	1,3-Propane sultone	0.003
106990	1,3-Butadiene	0.007
53963	2-Acetylaminoflourine	0.0005
91941	3,3'-Dichlorobenzidine	0.02
58899	Lindane (hexachlorocyclohexane, gamma)	0.005
95807	2,4-Toluene diamine	0.002
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	0.006

122667	1,2—Diphenylhydrazine	0.009
8001352	Toxaphene (chlorinated camphene)	0.006
121142	2,4-Dinitrotoluene	0.002
119904	3,3'-Dimethoxybenzidine	0.01
50000	Formaldehyde	0.2
101144	4,4'-Methylene bis(2-chloroaniline)	0.02
107131	Acrylonitrile	0.03
106934	Ethylene dibromide(1,2-Dibromoethane)	0.01
72559	DDE (1,1-p-chlorophenyl 1-2 dichloroethylene)	0.01
510156	Chlorobenzilate	0.04
62737	Dichlorvos	0.02
75014	Vinyl chloride	0.02
75218	Ethylene oxide	0.09
96457	Ethylene thiourea	0.06
593602	Vinyl bromide (bromoethene)	0.06
67663	Chloroform	0.09
87865	Pentachlorophenol	0.07
51796	Ethyl carbamate (Urethane)	0.08
107062	Ethylene dichloride (1,2-Dichloroethane)	0.08
78875	Propylene dichloride (1,2-Dichloropropane)	0.1
56235	Carbon tetrachloride	0.1
71432	Benzene	0.2
140885	Ethyl acrylate	0.1
75569	Propylene oxide	0.5
62533	Aniline	0.1
106467	1,4-Dichlorobenzene(p)	0.3
88062	2,4,6-Trichlorophenol	0.6
117817	Bis (2-ethylhexyl) phthalate (DEHP)	0.5
95534	o-Toluidine	0.4
114261	Propoxur	2.0
79016	Trichloroethylene	1.0
123911	1,4-Dioxane (1,4-Diethyleneoxide)	0.6
75070	Acetaldehyde	0.9
75252	Bromoform	2.0
133062	Captan	2.0
106898	Epichlorohydrin	2.0
75092	Methylene chloride (Dichloromethane)	4.0

127184	Tetrachloroethylene (Perchloroethylene)	4.0
53703	Dibenz (ah) anthracene	0.01
218019	Chrysene	0.01
60117	Dimethyl aminoazobenzene	1.0
56553	Benzo (a) anthracene	0.01
205992	Benzo (b) fluoranthene	0.01
79469	2-Nitropropane	1.0
542756	1,3-Dichloropropene	1.0
57976	7,12-Dimethylbenz (a) anthracene	0.01
225514	Benz(c)acridine	0.01
193395	Indeno(1,2,3-cd)pyrene	0.01
189559	1,2:7,8-Dibenzopyrene	0.01
79345	1,1,2,2-Tetrachloroethane	0.03
91225	Quinoline	0.0006
75354	Vinylidene chloride (1,1-Dichloroethylene)	0.04
87683	Hexachlorobutadiene	0.09
82688	Pentachloronitrobenzene (Quintobenzene)	0.03
78591	Isophorone	0.7
79005	1,1,2-Trichloroethane	0.1
74873	Methyl chloride (Chloromethane)	1.0
67721	Hexachloroethane	0.5
1582098	Trifluralin	0.9
1319773	Cresols/Cresylic acid (isomers and mixture)	1.0
108394	m-Cresol	1.0
75343	Ethylidene dichloride (1,1-Dichloroethane)	1.0
95487	o-Cresol	1.0
106445	p-Cresol	1.0
74884	Methyl iodide (Iodomethane)	1.0
100425	Styrene	1.0
107051	Allyl chloride	1.0
334883	Diazomethane	1.0
95954	2,4,5—Trichlorophenol	1.0
133904	Chloramben	1.0
106887	1,2—Epoxybutane	1.0
108054	Vinyl acetate	1.0
126998	Chloroprene	1.0
123319	Hydroquinone	1.0

92933	4-Nitrobiphenyl	1.0
56382	Parathion	0.1
13463393	Nickel Carbonyl	0.1
60344	Methyl hydrazine	0.006
151564	Ethylene imine	0.0003
77781	Dimethyl sulfate	0.1
107302	Chloromethyl methyl ether	0.1
57578	beta-Propiolactone	0.1
100447	Benzyl chloride	0.04
98077	Benzotrichloride	0.0006
107028	Acrolein	0.04
584849	2,4-Toluene diisocyanate	0.1
75741	Tetramethyl lead	0.01
78002	Tetraethyl lead	0.01
12108133	Methylcyclopentadienyl manganese	0.1
624839	Methyl isocyanate	0.1
77474	Hexachlorocyclopentadiene	0.1
62207765	Fluomine	0.1
10210681	Cobalt carbonyl	0.1
79118	Chloroacetic acid	0.1
534521	4,6-Dinitro-o-cresol, and salts	0.1
101688	Methylene diphenyl diisocyanate	0.1
108952	Phenol	0.1
62384	Mercury, (acetato-o) phenyl	0.01
98862	Acetophenone	1.0
108316	Maleic anhydride	1.0
532274	2-Chloroacetophenone	0.06
51285	2,4-Dinitrophenol	1.0
109864	2-Methoxy ethanol	10.0
98953	Nitrobenzene	1.0
74839	Methyl bromide (Bromomethane)	10.0
75150	Carbon disulfide	1.0
121697	N,N-Dimethylaniline	1.0
106514	Quinone	5.0
123386	Propionaldehyde	5.0
120809	Catechol	5.0
85449	Phthalic anhydride	5.0

463581	Carbonyl sulfide	5.0
132649	Dibenzofurans	5.0
100027	4-Nitrophenol	5.0
540841	2,2,4-Trimethylpentane	5.0
111422	Diethanolamine	5.0
822060	Hexamethylene-1,6-diisocyanate	5.0
	Glycol ethers ^a	5.0
	Polycyclic organic matter ^b	0.01

- 2 *These values are based on the de minimis levels provided in the proposed rulemaking pursuant to section 112(g) of the Act using a 70-year lifetime exposure duration for all VHAP. Default assumptions and the de minimis values based on inhalation reference doses (RfC) are not changed by this adjustment.
- 3 ^aExcept for ethylene glycol butyl ether, ethylene glycol ethyl ether (2-ethoxy ethanol), ethylene glycol hexyl ether, ethylene glycol methyl ether (2-methoxyethanol), ethylene glycol phenyl ether, ethylene glycol propyl ether, ethylene glycol mono-2-ethylhexyl ether, diethylene glycol butyl ether, diethylene glycol ethyl ether, diethylene glycol methyl ether, diethylene glycol hexyl ether, diethylene glycol phenyl ether, diethylene glycol propyl ether, triethylene glycol butyl ether, triethylene glycol ethyl ether, triethylene glycol methyl ether, triethylene glycol propyl ether, ethylene glycol butyl ether acetate, ethylene glycol ethyl ether acetate, and diethylene glycol ethyl ether acetate.
- 4 ^bExcept for benzo(b)fluoranthene, benzo(a)anthracene, benzo(a)pyrene, 7,12-dimethylbenz(a)anthracene, benz(c)acridine, chrysene, dibenz(ah) anthracene, 1,2:7,8-dibenzopyrene, indeno(1,2,3-cd)pyrene, but including dioxins and furans.
- a) As of 5-4-12 we use formaldehyde cas #50000 our emission limit of formaldehyde has remained below 0.2 tons and continues below this point. We currently do not use any of the other VHAPS of potential concern from table 6 of 40 CFR 63.803.

63.802 Emission Limits

- 13 Limit VHAP emissions from finishing operations by using the averaging method found in 63.804 (a)(1)
- i) Calculate the average VHAP content for all finishing materials used at the facility using Equation 1 and maintain a value of E no greater than 1.0
 - (1)
$$E = \frac{Mc1 * Cc1 + Mc2 * Cc2 + \dots + Mcn * Ccn + S1 * W1 + S2 * W2 + \dots + Sn * Wn}{Mc1 + Mc2 + \dots + Mcn}$$
 - (2) Where
 - (a) Mc1=mass lbs of solids coating 1 used monthly in lbs solids/Month
 - (b) Cc1=the VHAP content in coating 1 in lbs VHAP/lb of solids
 - (c) Mc2= mass lbs of solids coating 2 used monthly in lbs solids/Month
 - (d) Cc2=the VHAP content in coating 2 in lbs VHAP/lb of solids
 - (e) Mcn=mass lbs. of solids for final coating material
 - (f) Ccn=mass VHAP content for final coating material
 - (g) S1=VHAP content of solvent added to coating material prior to application expressed as a weight fraction
 - (h) W1=amount of solvent added to finishing materials during the monthly averaging period.
 - ii) This calculation shall be completed each month and kept on record with air quality records. It will also be incorporated into our semi-annual report due to the DEQ/AQD district office on Jan 1st and July 1st each year.
- b) Limit VHAP emissions from contact adhesives to not more than 1 lb VHAP/lb Solids.
- c) Limit emissions from strippable booth coating to not more than 0.8 lb VOC/lb solids

Record Keeping & Reporting Requirements

- b) The owner or operator of an affected source subject to emission limits of 63.802 shall maintain the following records
 - i) A certified product data sheet for each finishing material, contact adhesive, thinner, and strippable booth coating. And
 - ii) The VHAP content, in lbs VHAP/lb of solids as applied for each finishing material and contact adhesive subject to emission limits in 63.802. And
 - iii) The VOC content, in lbs VOC/lb of solids as applied for each strippable booth coating subject to emission limits in 63.802(a)(3) or (b)(3).
- c) The owner or operator of an affected source following compliance method 63.804(a)(1) or (d)(1) shall maintain copies of the averaging calculation for each month following the compliance date, as well as maintain the data on the quantity of coatings and thinners used that is necessary to support the calculation of E in Equation 1.
- d) The owner or operator of an affected source subject to the work practice standards in 63.803 shall maintain onsite the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including, but not limited to the following.
 - i) Records demonstrating that the operator-training program required by 63.803(b) is in place.
 - ii) Records collected in accordance with the inspection and maintenance plan required by 63.803(c).
 - iii) Records associated with the cleaning solvent accounting system required by 63.803(d)
 - iv) Records associated with the limitation on the use of conventional spray guns showing total finishing material usage and percentage of finishing materials applied with conventional spray guns for each semiannual period as required by 63.803(h)(5).
 - v) Records associated with the formulation assessment plan required by 63.803(1).
 - vi) Copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.
 - (1) Class Rosters
 - (2) Training logs
 - (3) Any proficiency documentation created.
- e) The owner or operator of an affected source shall maintain records of all other information submitted with the compliance status report required by 63.9(h) and 63.807(b) and the semiannual reports required by 63.807(c).
- f) The owner or operator of an affected source shall maintain records in accordance with the requirements of 63.10(b)(1)

Operator Training Outline

- 1 Topics to be covered during initial training
 - a) Hazard Communication/ Right-To-Know
 - i) The lesson plan shall include
 - (1) An introduction to SDS information concerning the family of chemicals we use here at LaFata Cabinets.
 - (a) What information is contained in each section and what it means to an employee.
 - (2) Instruction of proper bonding and grounding requirements before pumping or pouring solvent based products from one container to another.
 - (3) Instruction on the importance of proper eye protection to avoid chemical splash injuries to the eyes.
 - (4) Instruction on the proper use, care & location of the fixed eyewash stations in our plant.
 - (5) Instruction concerning the proper first aid procedures to follow should an employee be involved in an accident with a solvent based product.
 - (6) Instruction on proper chemical spill protocol and containment.
 - (7) Instruction on fire fighting procedures, flammability ratings for the chemicals in use, proper labeling, Fire extinguisher locations and proper use of fire extinguishers.
 - b) Hazard Communication Right-TO-Know for Formaldehyde specifically
 - i) This lesson plan shall include:
 - (1) A specific description of formaldehyde as a chemical that is acknowledged as a probable human carcinogen by MIOSHA
 - (2) The exposure levels found to be in our plant
 - (3) What the exposure limits are and what that may feel like.
 - c) Hazardous Waste
 - i) Proper Handling For Operators
 - (1) A lesson plan will be created for a class that should last for no less than 10 minutes followed by a question & answer session lasting up to 10 minutes
 - (a) This lesson plan shall include
 - (i) A definition of hazardous waste, what types we have here at LaFata Cabinets.
 - (ii) Where our hazardous waste containers are located
 - (iii) Proper labeling requirements.
 - (iv) A description of our process of handling our hazardous waste products,
 1. Where they are properly stored
 2. How long they can stay there
 3. How it is picked up in the end by a licensed hazardous waste hauler.
 - d) Stain Application
 - i) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.

- (1) This lesson plan shall contain the following
 - (a) A step by step procedure of exactly how the job is to be done
 - (b) Proper safety procedures that need to be followed
 - (c) Proper use of clean-up solvent during color changeovers.
 - (d) Proper use of clean-up rags and wiping rags.
- e) Stain Wiping
 - i) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (1) This lesson plan shall contain the following
 - (a) A step by step procedure of exactly how the job is to be done
 - (b) Proper safety procedures that need to be followed
 - (c) Proper use of clean-up solvent during color changeovers.
 - (d) Proper use of clean-up rags and wiping rags.
- f) Spray Staining
 - i) Spraying techniques
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) This lesson plan shall contain the following
 - (i) Detailed instruction on proper spraying techniques to maximize yield and minimize over spray and waste.
 - (ii) A step by step procedure of exactly how the job is to be done
 - (iii) Proper safety procedures that need to be followed
 - ii) Equipment & Clean-up
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes
 - (a) This lesson plan shall contain the following
 - (i) Detailed instruction on the different types of spray guns, pumps and chemical lines we use at LaFata Cabinets.
 - 1. Working pressures for each type
 - 2. Chemical hose working pressure requirements for each type.
 - 3. The differences in the spray gun set-up and effects of adjustments to the quality of the spray pattern.
 - 4. Safety procedures required while working with each type of equipment.
 - 5. Proper clean-up procedures and proper use of clean-up solvent
- g) Priming & Painting
 - i) Spraying techniques
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) This lesson plan shall contain the following
 - (i) Detailed instruction on proper spraying techniques to maximize yield and minimize over spray and waste.
 - (ii) A step by step procedure of exactly how the job is to be done
 - (iii) Proper safety procedures that need to be followed
 - ii) Equipment & Clean-up

- (a) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (i) This lesson plan shall contain the following
 - 1. Detailed instruction on the different types of spray guns, pumps and chemical lines we use at LaFata Cabinets.
 - a. Working pressures for each type
 - b. Chemical hose working pressure requirements for each type.
 - c. The differences in the spray gun set-up and effects of adjustments to the quality of the spray pattern.
 - d. Safety procedures required while working with each type of equipment.
 - e. Proper clean-up procedures and proper use of clean-up solvent
- h) Sealing & Topcoating
 - i) Spraying Techniques
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) This lesson plan shall contain the following
 - (i) Detailed instruction on proper spraying techniques to maximize yield and minimize over spray and waste.
 - (ii) A step by step procedure of exactly how the job is to be done
 - (iii) Proper safety procedures that need to be followed
 - (2) Equipment & Clean-up
 - (a) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (i) This lesson plan shall contain the following
 - 1. Detailed instruction on the different types of spray guns, pumps and chemical lines we use at LaFata Cabinets.
 - a. Working pressures for each type
 - b. Chemical hose working pressure requirements for each type.
 - c. The differences in the spray gun set-up and effects of adjustments to the quality of the spray pattern.
 - d. Safety procedures required while working with each type of equipment.
 - e. Proper clean-up procedures and proper use of clean-up solvent
 - i) Glazing & Highlighting
 - i) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (1) A detailed description of the effects we are looking for and the difference between glazing and highlighting.
 - (2) Proper use of clean-up solvent

- j) Automated Flatline
 - i) Machine Operator
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) A detailed step-by-step procedure of how the job is to be done.
 - (b) Safety concerns
 - (c) Proper use of clean-up solvent
 - (d) Machine Operator Maintenance Daily
 - (e) Machine Operator Maintenance Weekly
 - ii) Loader
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) A detailed step-by-step procedure of how the job is to be done.
 - (b) Safety concerns
 - (c) Proper use of clean-up solvent
 - iii) Sander
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) A detailed step-by-step procedure of how the job is to be done.
 - (b) Safety concerns
 - (c) Proper use of clean-up solvent
 - iv) Sanding Machine Operation
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) A detailed step-by-step procedure of how the job is to be done.
 - (b) Safety concerns
 - (c) Proper use of clean-up solvent
 - v) Un-loader
 - (1) A lesson plan will be created for a class that should last for no less than 20 minutes followed by a question & answer session lasting up to 10 minutes.
 - (a) A detailed step-by-step procedure of how the job is to be done.
 - (b) Safety concerns
 - (c) Proper use of clean-up solvent
- k) Storage Requirements
- l) Table of Equipment Authorized For Use
- m) Wood Workpiece Wash-off/Stripping Procedure
- 2 Topics to be covered during annual refresher training
 - a) Record keeping requirements
 - i) Washoff solvent accounting
 - ii) Air quality reporting
 - iii) Finishing materials usage
 - iv) Maintenance inspection logs
 - b) Proper operating techniques
 - i) Spray guns (all types that we have) for sprayers only
 - c) Hazardous Waste Procedures
 - d) Hazard Communications Program

- e) Voluntary Respirator Program
- f) Proper solvent usage
- g) Proper storage requirements

Positions Requiring Training

The following position with LaFata Enterprises Inc. requires training in this program.

Position Name	Job Identification Number
• Finish Supervisor –	52000-20
• Wiping Stain Applier –	52100-20
• Wiping Stain Wiper -	52100-20
• Spray only Stain Sprayer –	52100-20
• Primer/Paint Sprayer –	52100-20
• Sealer/Topcoat Sprayer –	52100-20
• Glazers –	52100-20
• Cefla Operator –	52200-20
• Cefla Loader –	52200-20
• Cefla Hand Sealer Sander –	52200-20
• Cefla Sanding Machine operator -	52200-20
• Cefla Unloader –	52200-20
• Touch-up Technician –	52300-20
• Drawer Box Sprayer –	52400-20

Personnel Assigned to These Positions

Position Name	Person In Position
<ul style="list-style-type: none"> • Finish Supervisor 	Segundo Rodas
<ul style="list-style-type: none"> • Wiping Stain Applier 	Rosalia Vega Arturo Ayala Avalos
<ul style="list-style-type: none"> • Wiping Stain Wiper 	Rosalia Vega Roze Daka Elizabeth Almaguer Amanda Ley Maria Perez
<ul style="list-style-type: none"> • Spray only Stain Sprayer 	Arturo Ayala Avalos
<ul style="list-style-type: none"> • Primer/Paint Sprayer 	Arturo Ayala Avalos Segundo Rodas
<ul style="list-style-type: none"> • Sealer Topcoat Sprayer 	Arturo Ayala Avalos Segundo Rodas
<ul style="list-style-type: none"> • Glazers 	Maritza Gonzalez Sopia Spaqi Angela Tapia Nunez Maria Aguilar
<ul style="list-style-type: none"> • Glaze scuff sander 	Evica Mihajloska Juana Vega
<ul style="list-style-type: none"> • Cefla Operator 	Dalibor Tiranovski
<ul style="list-style-type: none"> • Cefla Loader 	Arturo Ayala Dalibor Tiranovski
<ul style="list-style-type: none"> • Cefla Hand Sander 	Sopia Spaqi Martha Espino Martinez Alejandra Reyes Maria Lugo Drande Nikaj
<ul style="list-style-type: none"> • Cefla Sanding Machine operator 	Luis Alvarez Guerrero
<ul style="list-style-type: none"> • Cefla Unloader 	Dalibor Tiranovski Marco Reyes
<ul style="list-style-type: none"> • Touch-up Technician 	Segundo Rodas Maria Maldonado
<ul style="list-style-type: none"> • Drawer Box Sprayer 	Martin Speshock

Table of Equipment Authorized For Use

Kremlin Airmix Spray gun Model # MX
Kremlin Automatic Airmix Spray Gun Model ATX
Kremlin Conventional Air Spray Cup Gun Model M21- Touch-up & Custom colors only.
Kremlin HVLP Spray gun Model # VLP21
Sata HVLP Gravity Feed Cup Gun Model # NR95
Sata Mini-Jet HVLP Gravity feed Cup Gun for Touch-up
Kremlin Airmix Pump Model # 10.14
Kremlin Low Pressure Pump Model# 01.52
Kremlin Airmix Pump Model# 16-120
Pressure Pots for use with HVLP Guns
Kremlin Excite Airmix Spray Gun
Sata-jet 4000 HVLP Gravity feed

Maintenance And Inspection Program

- 1 A maintenance person or finishing department supervisor will visually inspect each fluid and air hose or line associated with the finishing operation at LaFata Enterprises Inc. no less than once per month.
 - a) During this inspection, he or she will document the date of the inspection on the inspection log.
 - i) The inspection log shall contain the following information.
 - (1) Maintenance person's name along with date and time of inspection.
 - (2) What equipment was discovered leaking
 - (3) What material was seen leaking from the defective equipment?
 - (4) What was done to repair the equipment and stop the leak along with the date and time the repair was completed.
 - ii) If there are any leaks detected they will be repaired immediately if possible or at the end of the shift while the finishing personnel are cleaning up.
 - iii) If the parts required to complete a repair are not available you will report this to the production or plant manager as soon as possible and the required parts will be ordered with urgency.
 - b) It is mandatory that any and all detected leaks be fully repaired within 4 days of its discovery.
 - (1) If for any reason this cannot happen you must report this to the production or plant manager

Washoff procedure and washoff solvent accounting system

- 14 It is our policy not to washoff parts that require stripping opting instead to sand the finish off the parts. This method can be quicker and easier depending on the object to be stripped. However, since we do custom work in certain unusual circumstances it may become the only way to accomplish the job. In these cases only the following procedure must be followed.
- 15 Washoff solvents must not contain any of the chemicals listed on Table 4 of CFR 40 Part 63 subpart jj
 - a) Our current products “B-Wash Solvent, acetone, tert-butyl acetate” do not contain constituents listed in this table.
 - b) It is our preference to remove completely cured sealer & topcoats through sanding
 - i) The only areas that may need to be washed off are in the profiles of the more decorative pieces we sometimes run into.
 - ii) This must be accomplished inside a covered containment vessel.
 - iii) A containment tank with legs mounted below is located in the touch-up area. It also has a drain valve to facilitate the removal of the solvent from inside it. Before use always make sure this valve is closed.
 - iv) When washing off a piece you can use solvent clean-up shop towels to wrap the product and then place the part inside the containment tank, wet the rags with solvent.
 - v) In this manner, you will need to use much less solvent than if you try to cover the product with solvent.
 - vi) Make sure the table is properly grounded at all times and if you are pouring solvent into the tank, the tank and bucket must be bonded with a bonding wire following proper safe solvent handling practices.
 - c) If the sealer or topcoat is still wet.
 - i) It may be a very simple project to clean off the part quickly by using solvent.
 - ii) An example of this would be if a part fell through the metal feed bands on the auto finish line. The coating would be very fresh and yet the water would damage the finish on the part and or scraping the bands as it fell.
 - iii) Using the tank and as little solvent as possible you can very quickly wash the coating off the part paying special attention to the deeper profiles and following this operation up with any required sanding to insure the part is ready to be re-finished.
 - d) Record Keeping Requirements
 - i) We need to document the total amount of solvent used for this purpose along with any solvent reclaimed and deposited into the hazardous waste drum.
 - ii) Therefore, there will be a log in the touch-up area that shall be turned in on the last day of each month. On this log will be the date the washoff took place,

the part name that was washed, how much solvent was used, how much solvent was reclaimed.

- iii) This information must be kept on file for a period of 5 years and be incorporated into the semi-annual report to the MDEQ/AQD that is required by CFR 40 Part 63 subpart jj

Spray Booth Cleaning & Refurbishing Procedure

- 1 All spray booths at LaFata Cabinets will have the walls and floors covered with fire retardant paper manufactured for this purpose.
 - a) The paper can be attached by cutting holes into the paper and using two-inch wide masking tape to not only cover the complete hole but also overlap onto the paper.
- 2 The ceiling of each spray booth will be covered with strippable booth coating
 - b) The surface should be clean and free of dried over spray.
 - c) Use a paint roller to apply, as this material will clog up spray gun filters and fluid filters.
 - d) Coating should be 8 to 10 mils thick
 - e) The booth coating used must have no more than 0.8 lbs. VOC/lb. Of solids
 - f) We are currently using Chemco Manufacturing #030L, which has a VOC content of 0.42 lbs. of VOC/ lb. Of solids
 - g) If you take care of the spray booth and do not spray inside your booth in a sloppy manner one coating should be able to last six months. This is a guide only if your booth needs to be recoated before this please talk to your supervisor because it is much better to strip the coating and recoat than to allow over spray to build up on the bare metal requiring a good deal of scraping in order to get it removed.
- 3 Cleaning your booth
 - h) Spray booths need to be cleaned out on a weekly basis.
 - i) This means sweeping up any over spray that accumulates through the week.
 - i) Check your filters everyday, each booth has a manometer attached to the outside sidewall and this can be checked to insure your filters are ok. However, if you feel your booth is not drawing the over spray out as it usually does and your filters are dirty change them anyway. It is better to exhaust the fumes and pull the over spray into the filter than to allow it to contaminate our finished product.
 - j) Keep the glass lenses over your lights clean so you can see well what you're working on.
 - k) Replace the paper when required, if you notice over spray build up or if the paper becomes torn or is falling down.
- 4 If stripping your booth completely you are allowed only one gallon of solvent per spray booth.
 - l) This means that any over spray needs to be removed manually by scraping with a non-sparking scraper. Remove all residues and use the solvent only for final cleaning and degreasing in order to reapply the booth coat to the ceiling and the paper to the walls.

Chemical Storage Requirements

- 1 The Stain Room
 - a) All hazardous chemicals must be kept in properly labeled closed containers at all times when not in use.
 - b) Each spray booth will have a five-gallon bucket for accumulation of hazardous waste.
 - i) This bucket will be marked "Spent Solvent" It will have a cap and be kept closed at all times when not in use.
 - (1) When filled it will be dumped into the Spent Solvent Drum located beside the auto-finishing line.
 - c) There is a flammable storage locker in the stain room for keeping 5 gallon buckets in when not in use.
 - d) You are only allowed to store 50 gallons or one day's use of flammable chemicals in the work area. This will amount to one opened bucket of each color stain until it is completely used up and then another bucket of that color can take its place. As well as one bucket of each primer, paint or topcoat we are using.
- 2 Glazing Room
 - a) All hazardous chemicals must be kept in a properly labeled closed container at all times when not in use
 - b) You are allowed to store only 50 gallons or one days use in this work area.
 - c) There is a flammable storage locker in this area to store materials in used for glazing and tinting.
- 3 Auto-Finishing Line
 - a) All hazardous chemicals must be kept in a properly labeled closed container at all times when not in use.
 - b) A Spent Solvent Waste Drum must be properly marked and maintained for use by all departments.
 - i) After the drum is filled it is to be sent out to the solvent reclaiming still operator to be recycled.
 - ii) At this time a new properly marked Spent Solvent Drum will be put in its place.
 - c) You are allowed to store only one day's use of materials in your area.
 - i) This will mean that the materials you are spraying out of and what you will spray the following day is what should be stored here, all other material must be stored in the chemical storage room in the south building.
 - (1) Because the chemical storage room is not kept above 65 degrees, it is important to allow the material to warm up in the winter months for 24 hours before we intend to spray it out.
- 4 Chemical Storage Room
 - a) This is where our stock of chemicals needs to be kept. All containers in this area have unbroken seals and have never been opened with the exception of the hazardous waste drums and solvent recycling drums used in the solvent recycling operation.

- b) The materials must be rotated when a new shipment is received (first in first out) and put onto the shelf properly in order for us to keep an accurate running inventory that will allow us to manage our materials properly and not run out of any one item or over stock an item to the point of storage problems.
- c) The door has a self-closing device installed on it and must never be blocked open. It is important to keep this door closed at all times.

Formulation Assessment Plan

16

- 1 The Formulation Assessment Plan required by the MACT has to do with a very narrow number of VHAP containing materials; these are specified as “VHAPS of potential concern”.
 - a) Table 5 is included in this document under “**Requirements of 40 CFR 63 subpart jj**”
 - i) The only compound we currently are concerned with is the Formaldehyde. As of 5-4-12 formaldehyde emissions have remained below 0.2 tons and continues below this point. We currently do not use any of the other VHAPS of concern from table 5 of 40 CFR 63.803.
 - b) Table 6 is included in this document under “**Requirements of 40 CFR 63 subpart jj**”
 - i) As of 5-4-12 the only VHAP of potential concern listed in table 6 of 40 CFR part 63 subpart jj is formaldehyde, CAS# 50000. We currently emit less than .2 tons annually, which is the de minimis level listed. We do not use any other compounds found in table 6.
 - c) Therefore, our formulation assessment plan only requires that we monitor the constituents that make up our future products and insure that we preferably do not use any of the compounds on the list. If we do begin to use any of these products in our finishing operation we can never exceed the de minimis emission limit.
 - d) In order to demonstrate compliance we will need to keep certified product data sheets on each of our finishing materials. We will use our SDS’s to demonstrate this.

Job Descriptions & Lesson Plans

Stain Applier

Mission: To apply stain to LaFata pieces & parts in a safe and effective manner.

Training Required: Right to know, Proper Chemical Handling Safety Procedures, Clean-up Solvent Accounting System, Hazardous Waste Program

Your job consists of the following steps and responsibilities:

- 1 By reading the production schedule you will know how many colors and how many parts for each color we need to stain. As well as the shop numbers that are scheduled for production on that day.
- 2 You must bring the parts to be stained into the stain room by stain color and shop number
- 3 To prepare the stain for application you must insure it is mixed completely!
 - a) This is done by stirring the opened buckets.
 - b) If you are going to open a brand new bucket with the factory seal intact, you can put the bucket into our shaker prior to opening it and then stir it to make certain it is mixed completely.
 - c) If the pigments are not all in suspension (pulled off the bottom of the bucket and mixed well until floating within the solution) then the color of the finished product will not be correct. It may only vary slightly to the naked eye when seen by itself but will look much worse when placed directly beside a previously stained part.
 - d) The stain must be stirred frequently throughout the production process to insure the pigments do not have the opportunity to settle out and fall to the bottom of the bucket.
- 4 To stain the parts
 - a) You will use a cotton rag and dip it into the stain
 - b) With the rag wet with stain you will rub the part insuring that stain gets into all the nooks, profiles and corners of every piece. Especially the joint of a door panel into the door frame groove. They must all be colored completely.
 - c) Then the part will be passed gently to a stain wiper who will continue the process.
 - d) Keep in mind that we expect to get an average of 30 cabinets stained per gallon of stain used.
 - e) When one stain color is completed the opened bucket needs to be closed tightly to avoid evaporation of solvents.
- 5 We begin with the wood veneer/vinyl parts (sides, fixed shelves, etc.) stacking no more than 5 high on the table with the vinyl side down to insure that the vinyl side stays as stain free as possible (any stain that get onto the vinyl side must be cleaned off prior to sealing & topcoating!).
 - a) Be sure you get the tall parts off the wall of the stain room since we do not stack these oversized parts on the pallets.
- 6 Face frames are generally one sided parts, however you must check for the finished side mark on the top of each frame and make sure the ¼" reveal on the back and the edge is completely colored.

- 7 When the wood veneer vinyl parts are completed begin the two-sided wood parts (sides, doors, drawer fronts, etc).
- 8 After finishing the two sided parts get the molding off the wall inside the stain room and stain these items.
- 9 Before changing colors make sure you check the wall outside the stain room for late parts of the same color you have just completed. If there are any there get them and stain them prior to cleaning up the table.
- 10 When one color is finished move right into the one sided parts of the next color and so on. The table must be cleaned up between colors as follows.
- 11 To clean up the table
 - a) Wipe up all excess stain on the table with your dirty stain rag and without the use of solvent.
- 12 End of the day clean-up
 - a) All tables will be cleaned.
 - b) All clean-up rags in proper container.
 - i) Warning!!!! Certain solvents when on a rag with sufficient air movement may spontaneously combust!!!!!! This means starting on fire without the need of an ignition source (flame or spark of any kind).
 - c) All stain wiping rags will be removed from the room prior to shutdown.
 - d) There will be no solvent or stain rags left uncovered in the stain room overnight.
 - i) Any containers used to hold solvent rags must be steel and have a cover that will not allow air to circulate with-in the container and therefore will not allow combustion to occur.
- 13 Record keeping requirements
 - a) You are required to keep a usage inventory of all the chemicals we use every day.
 - i) You will measure the amount of material in the bucket before you begin each color stain and then measure the amount left after you finish the color and the difference is the amount used for the day.
 - ii) These logs must be turned into your supervisor at the end of each shift.

Stain Wiper

Mission: To wipe excess stain off wood parts in an effective manner and conserve finishing materials through conscientious work habits to keep our environmental impact as low as possible. To insure high quality parts through inspection and rejection if the parts do not meet our quality standards. To maintain color consistency through inspection and rejection based on color standards.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, And Clean-up Solvent Accounting System, Hazardous Waste Program

Your job consists of the following steps and responsibilities:

- 1 You will take parts from the stain applicator who will wet the parts with stain.
- 2 Using a clean cotton rag you will wipe each part in a circular motion, pushing the stain into the grain of the wood from all directions.
 - a) Continue wiping until the part is semi-dry then switch to wiping the part with the grain only. Your final wiping shall always be in a straight in-line direction moving with the grain of the wood.
 - b) Use a brush to get stain out of all corners and deeper recessed areas
 - c) Do one more final wipe with the grain and inspect the part.
 - i) You are looking for areas that did not take stain (such as glue spots), dents, rough areas that took a lot more stain than the rest of the part, saw blade marks, excessive sanding scratches, finger prints or rag marks that you left, and a general color consistency to the color standard.
 - d) If for any reason you do not feel the quality is acceptable set the part aside and ask the stain room supervisor to inspect the part. LaFata's quality expectations are high and will not be compromised. Please help us maintain our high standards!
- 3 After the part has passed your inspection place it carefully on the drying rack and make sure you did not leave fingerprints or rag marks on it.
 - a) If you are working on wood veneer/vinyl parts the vinyl or melamine side must be cleaned of all stain before it is placed on the drying rack.
 - i) This is done by using a solvent clean-up shop towel with a small amount of solvent to wipe off all the stain from the vinyl or melamine side of the part.
- 4 Frames and molding need all edges and sides wiped semi-dry
 - a) When stacking frames on the frame cart always stack them face-to-face and back-to-back.
- 5 When you fill a drying rack push the rack carefully into the lag area beside the Cefla and bring in an empty one to continue your job.
- 6 The table must be cleaned up between colors as follows.
- 7 To clean up the table
 - b) Wipe up all excess stain on the table with your dirty stain rag and without the use of thinner
 - c) Get a clean-up rag (the shop towels from Cintas Inc.) dampen with clean-up solvent and wipe the table clean, striving to use as little solvent as necessary to clean the table completely.

- i) Then put the clean-up rag into the container to be picked up by Cintas Inc. for cleaning.
- 14 After the table is clean begin the next color and repeat as necessary until the production schedule is complete.
- 15 End of the day clean-up
 - a) All tables will be cleaned.
 - b) All clean-up rags in proper container.
 - i) Warning!!!! Certain solvents when on a rag with sufficient air movement may spontaneously combust!!!!!! This means starting on fire without the need of an ignition source (flame or spark of any kind).
 - c) All stain wiping rags will be removed from the room prior to shutdown.
 - d) There will be no solvent or stain rags left uncovered in the stain room overnight.
 - i) Any containers used to hold solvent rags must be steel and have a cover that will not allow air to circulate with-in the container and therefore will not allow combustion to occur.

Spray Stain Sprayer

Mission: To apply spray stains to wood parts in an environmentally responsible manner following proper spray finishing techniques insuring high quality, low environmental impact, exceptional color consistency and meeting LaFata's high standards of acceptability.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System, Hazardous Waste Program

Your job consists of the following steps and responsibilities:

- 1 By reading the production schedule you will know how many colors and how many parts for each color we need to stain. As well as the shop numbers that are scheduled for production on that day.
- 2 Make sure the parts are clean and dust free
 - a) This is accomplished automatically when they are run through the Quickwood denibber or can be cleaned manually by using a scotch-bright pad to scuff off the dust.
 - b) Before bringing the parts into the stain room make sure you blow off the loose dust also with compressed air.
 - c) Move the parts from the pallet onto a drying rack, inspecting for damage as you do so.
- 3 You must bring the parts to be stained into the stain room by stain color and shop number
- 4 To prepare the stain for application you must insure it is mixed completely!
 - e) Stirring the opened buckets does this.
 - f) If you are going to open a brand new bucket with the factory seal intact, you can put the bucket into our shaker prior to opening it and then stir it to make certain it is mixed completely.
 - g) If the pigments are not all in suspension (pulled off the bottom of the bucket and mixed well until floating within the solution) then the color of the finished product will not be correct. It may only vary slightly to the naked eye when seen by itself but will look much worse when placed directly beside a previously stained part.
 - h) You have an agitator on your pressure pot, make sure it is in good repair and turned on when you are using the pot.
- 16 Spray the back of the parts first and any edges that need to be sprayed
 - a) Spray the parts with numerous light coats using a step panel to check the color match as you go. When the color matches the step panel color then stop spraying it. Keep in mind some stains darken slightly as they dry.
 - b) Do not apply very heavy coats as this may cause the grain to fill with color to a point that is too dark to save the part.
 - c) Use proper spraying techniques whenever using a spray gun.
 - i) Hold the gun perpendicular to the part being sprayed at a distance of about 8 inches.

- ii) Moving your arm in a sweeping motion parallel to the face of the part, trigger the gun just before reaching the first edge of the part and hold the trigger on until just after passing the trailing edge.
 - iii) Do not trigger your gun at nothing; only trigger your gun when you are intending to spray a part.
 - iv) If you need to flush your gun you disconnect the airline and trigger the gun into the spent solvent bucket in your spray booth.
- 17 Flip the parts over and spray the face and edges using the step panel to match the color as you did on the back.
- 18 Place the finished part back onto the drying rack being careful not to slide it across the rack or you may mar the color on the back of the part.
- 19 When the rack is completed move it out of the stain room and into the lag area beside the Cefla.
- 20 Record keeping requirements
 - a) You are required to keep a usage inventory of all the chemicals we use each day as well as any material that is deposited into the hazardous waste drum from your spray booth.
 - i) You will need to measure the amount of material in the bucket before you begin each color and measure it again after you have finished with that color, the difference is the amount used for the day.
 - ii) We have a separate log for the material added to the hazardous waste drum that is kept in that area and used by everyone who adds any material to the drum. If you empty any spent solvent into the drum then you must log it onto the inventory sheet with where it came from and how much you added.
 - iii) Your usage inventory sheet must be turned into your supervisor at the end of each shift.

The Equipment you will use to accomplish your job is as follows:

- 1 Pressure Pot
 - a) A pressure pot is used for spraying stain because it will give you a very consistent material flow through the spraygun.
 - b) The way it works is by sealing the pot airtight and then applying compressed air pressure the atmospheric pressure inside the pot forces the liquid up the drawtube and into your spray gun.
 - i) If the seal on the lid is damaged it will not work well.
 - ii) If the seal on the lid is not clean it will not seal well
 - iii) The air pressure regulator on the airline feeding the pressure pot controls the fluid pressure fed into the spray gun. This pressure should be adjusted to 0 to 15 psi. for our spray stains which have a very low viscosity.
 - c) The spray gun is a high volume low pressure (HVLP) gun. It is designed to operate with very low atomizing air pressure thus increasing the transfer efficiency by reducing the velocity of the fluid coming out of the gun and reducing the “fog” from over atomizing that sometimes occurs with standard conventional spray guns. The atomizing air at the air cap of the HVLP spray gun MUST be less than 10 psi.

- i) Cleaning the spraygun
 - (1) Use a brush (nylon or brass only) to scrub off the air cap as required throughout the day.
 - (2) At the end of production remove the air cap from the spray gun and soak in thinner overnight in a tightly closed container.
 - (3) With the air cap removed use the brush to brush the end of the fluid nozzle with a little thinner then wipe with a solvent clean-up shop towel.
 - (4) Never soak the air section of a spraygun in thinner unless it is already scheduled for a complete rebuild.
- 2 The process for changing colors is as follows:
 - a) Remove the air pressure from the pressure pot
 - b) Pull out the pressure relief valve to release the pressure stored inside the pot
 - c) Remove the pressure pot lid
 - d) Take out the bucket of stain
 - e) Wipe off the draw tube
 - f) Reinstall the lid
 - g) Apply air pressure to the pressure pot
 - h) Remove atomizing air pressure from the spray gun
 - i) Trigger gun into bucket of stain and allow air pressure to push the original color stain out of the fluid lines
 - j) After all the fluid is out of the system
 - k) Put the new color stain bucket into the pressure pot
 - l) Reinstall the lid
 - m) Apply air pressure
 - n) Trigger the spray gun into your hazardous waste bucket and allow a pint or so of the new stain color to run into the waste bucket before beginning to spray parts.

Paint Sprayer

Mission: To prime & paint wood parts in an effective manner, keeping our environmental impact as low as possible and the quality of the finished product high.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System, Hazardous Waste Program

Your job consists of the following steps and responsibilities:

- 1 By reading the production schedule you will know how many colors and how many parts for each color we need to stain. As well as the shop numbers that are scheduled for production on that day.
- 2 Make sure the parts are clean and dust free
 - a) This is accomplished automatically when they are run through the Quickwood denibber or can be cleaned manually by using a scotch-bright pad to scuff off the dust.
 - b) Before bringing the parts into the stain room make sure you blow off the loose dust also with compressed air.
 - c) Move the parts from the pallet onto a drying rack, inspecting for damage as you do so.
- 3 You must bring the parts to be stained into the stain room by stain color and shop number.
- 4 Mix primer to suppliers specifications
 - a) We use mostly post catalyzed products, therefore, you must mix the primer with the proper amount of catalyst, check viscosity and adjust the viscosity by using the proper thinner. This helps us maintain a consistent coating thickness after the part dries.
 - b) Once the catalyst is added the pot life is only 1 day. Do not mix more than what you need to accomplish the day's production!
- 5 Spray doors first on the back and edges.
- 6 Use proper spraying techniques whenever using a spray gun.
 - iv) Hold the gun perpendicular to the part being sprayed at a distance of about 8 inches.
 - v) Moving your arm in a sweeping motion parallel to the face of the part, trigger the gun just before reaching the first edge of the part and hold the trigger on until just after passing the trailing edge.
 - vi) Do not trigger your gun at nothing; only trigger your gun when you are intending to spray a part.
 - vii) If you need to flush your gun you disconnect the airline and trigger the gun into the spent solvent waste bucket in your spray booth.
- 7 You must apply enough primer to allow the product to flow together and form a smooth coat but not so much that the vertical edges form sags or runs.

- 8 Rack the doors face down to allow the back to dry
- 9 When the back is dry flip the doors over and spray the front side and edges.
- 10 Rack the door face up to allow it to dry.
- 11 Prime cabinet sides, frames and molding following the same procedure but realizing that some of these parts are one sided and some are two sided.
- 12 Place the parts on drying racks
- 13 When dry remove to sanding area
- 14 Sand parts with 240 grit sandpaper until smooth, be careful not to sand primer completely off.
 - a) If you happen to sand through the primer the part must be primed over again before moving on to topcoat.
- 15 While you are sanding the parts you are also inspecting them for dents, cracks, saw marks, nail holes, etc. Fill any defects found with white color putty.
- 16 Blow off parts with compressed air and move the rack back into the spray room
- 17 Mix the correct color topcoat for the job following manufacturers specifications.
- 18 After placing the parts on the spraying fixture blow them off one more time.
- 19 Spray parts following the same procedure you did for priming them.
 - a) Quality at this point is more important than ever because this is a topcoat. In other words what you see is what we get when it comes to finish quality. If you have any concerns please stop spraying and ask your supervisor for direction.
 - b) The clothing you wear can effect your quality
 - i) Every time you move there can be tiny fibers falling from certain kinds of cloth. If your clothing is made of any of these fabrics you may find much more trash in your topcoat than normal. We do have tyvek coveralls available that will solve this problem. If you need to get a set please ask your supervisor.
- 20 Record keeping requirements
 - a) You are required to keep a usage inventory of all the chemicals we use each day as well as any material that is deposited into the spent solvent drum from your spray booth.
 - i) You will need to measure the amount of material in the bucket before you begin each color and measure it again after you have finished with that color, the difference is the amount used for the day.
 - ii) We have a separate log for the material added to the hazardous waste drum that is kept in that area and used by everyone who adds any material to the drum. If you empty any spent solvent into the drum then you must log it onto the inventory sheet with where it came from and how much you added.
 - iii) Your usage inventory sheet must be turned into your supervisor at the end of each shift.

The Equipment you will use to accomplish your job is as follows:

- 1 The Spray gun is an Air-mix variety, Which belongs to the air assisted airless family
 - a) This means that atomization of the fluid stream is accomplished mainly by means of fluid pressure. The fluid pressure we use is between 250psi and 1100psi the actual pressure will depend on the fluid tip used and the viscosity or the material you're spraying.

- b) The atomizing air adjustment is to assist in controlling the fan pattern more than atomizing the fluid stream. If you notice that your spray pattern has a definite large center area with a smaller round or tail at the top and bottom of the pattern then you need to increase your atomizing air pressure adjustment until those tails are just drawn into the fan pattern and it looks like one homogeneous oval pattern.
 - c) !!!!! WARNING!!!! With fluid pressures this high it is imperative that you never trigger your spray gun onto you hand or any other part of your or anyone else's body. The high fluid pressure could inject the finishing material into your body or bloodstream. This could cause serious illness, poisoning, or death.
 - d) Cleaning the spraygun
 - (1) Use a brush (nylon or brass only) to scrub off the air cap as required throughout the day.
 - (2) At the end of production remove the air cap from the spray gun and soak in thinner overnight in a tightly closed container.
 - (3) With the air cap removed use the brush to brush the end of the fluid tip with a little thinner then wipe with a solvent clean-up shop towel.
 - (4) Never soak the air section of a spraygun in thinner unless it is already scheduled for a complete rebuild as the air seals and o-rings will not tolerate thinners and the lifespan of these items will be drastically shortened.
- 2 The pump we use to pump the primer and paint into your spray gun is a 10:1 ratio pump.
- a) This means that for every pound of air pressure on the regulator gauge you will be getting 10 pounds of fluid pressure to you gun. Example: if your air regulator is set at 50 psi. then you have 500 psi. of fluid pressure fed to your gun.
 - b) !!!!! WARNING!!!! Never open any of the fluid pressure carrying system without first locking out the air pressure to the pump and bleeding off all fluid pressure by triggering your spraygun.
- 3 Changing over color, material & flushing fluid system
- a) Turn down air pressure to pump
 - b) Remove draw tube from paint bucket allowing pump to suck just a little bit of air
 - c) Shut off air pressure to pump
 - d) Clean draw tube with solvent clean-up rag and a little thinner
 - e) Put draw tube into new color paint bucket turn on air pressure slowly
 - f) Remove atomizing air from spray gun
 - g) Trigger gun into original color paint bucket until you get the first sputter
 - h) Then trigger gun into hazardous waste bucket and allow a bit of the new color to run through until all sputtering stops and you get a clean solid stream of new color.
 - i) Turn air pressure back to operating pressure and begin spraying.
 - j) To flush the system with thinner follow the same steps but replace new color with thinner and once the thinner is coming through the gun trigger it back into the thinner bucket and let it re-circulate for as long as required to clean completely all paint residue from the fluid system.

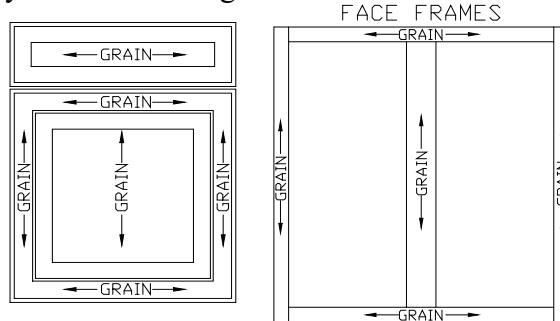
Glazing & highlighting

Mission: To apply glazing finishes to LaFata products that appear professional, distinctive, and elegant and are always consistent in the final color and style depending on the door style and finish color that has been chosen by the customer. Keeping our environmental impact as low as possible.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System Hazardous Waste Program

- 1 The finishing materials we use
 - a) Our wiping stains and spray stain will not affect your job because our glazing or highlighting is done between sealer or topcoats, or between paint and topcoat.
 - b) Our sealer and topcoats as well as all our paint colors are post catalyzed products.
 - i) What this means is that the adhesion between sealers to topcoat or topcoat-to-topcoat is dependant completely upon mechanical means. There is no chemical bonding that will take place between coats. The way that the coats bond is by the wet coating grabbing onto the scratches left by scuff sanding or seal sanding the first coat.
 - ii) The other thing you need to know about our clear coatings is that the complete cure takes about 30 days. This means that the coating will continue to contract for a few days before it is fully settled. While we cannot wait for this to happen we must realize that if we scuff sand a part and it sets for more than 1 ½ or 2 days the scratches that will determine whether or not we have good adhesion are leveling out and becoming rounded out and smooth again. Therefore, we must never glaze over a part that has been scuff sanded more than two days ago as this will lead to adhesion failures.
 - c) The glazes we use are petroleum and linseed oil based products.
 - i) !!!! WARNING!!!! Linseed oil is very prone to spontaneous combustion. Therefore, it is important that there are never any used rags left in the section overnight! Always empty your used rag container every afternoon before you leave.
- 2 The basic process is:
 - a) The jobs requiring a highlight are stained then sealed on the ceffa after which they will come to the glazing department to get scuffed and highlighted
 - b) The jobs requiring a full glaze will be stained then be sealed and top coated after which they will come to the glazing department to get scuffed and glazed.
 - c) The jobs requiring a painted highlighted finish will be painted in the stain room and will then come to the glazing department to get scuffed and highlighted and then be sent to the ceffa for the final topcoat.
 - d) The jobs requiring a painted fully glazed finish will be painted in the stain room and will then come to the glazing department to get scuffed and glazed and then be sent to the ceffa for the final topcoat.
- 3 How to properly scuff sand to make ready for glazing or highlighting.

- a) If the parts are only sealed then you must use 240 grit sandpaper on the flats to smooth the sealer and cut off the raised fibers of the wood.
 - i) Always sand with the grain of the wood NEVER against the grain.
 - ii) Then use a scotchbrite pad to smooth the profiles and areas that are not flat.
 - iii) Always sand with the grain of the wood NEVER against the grain.



When the job is to receive an all over glaze the scratch pattern must run very straight and with the grain of the wood. These jobs have also already received a topcoat; therefore they will be much smoother already than a highlighted job is in the beginning.

- iv) The quality of the scuff job has a very distinct effect on the quality of the all over glazed finish so you really need to concentrate on doing a fine scuffing job on those jobs that receive all over glazing.
- 4 Proper Highlighting
- a) Only the doors drawer fronts and moldings normally get highlighted on a job. However we do custom work here and also offer custom finishes which means sometimes we may have beadboard panels to highlight as well as custom wood hood cabinets.
 - b) Before beginning any glazing you must insure your glaze is well stirred and all the pigments are in suspension within the solution.
 - i) If the pigments are not all in suspension (pulled off the bottom of the bucket and mixed well until floating within the solution) then the color of the finished product will not be correct. It may only vary slightly to the naked eye when seen by itself but will look much worse when placed directly beside a previously finished part.
 - c) To highlight a door you must have a sample or get your first door approved by your supervisor and then it will become our standard for the job.
 - d) You use a small paintbrush to dip into the glaze and then basically out line whatever profiles are supposed to get highlighted on the specific door style you're working on.
 - e) Then while the glaze is wet you must use a cotton rag wrapped around your finger to carefully wipe along the profile removing any glaze that is outside the profile and also making the glaze line left in the profile very consistent in width and density.
 - f) When you've finished with one door replace it on the drying rack and get the next one.
 - g) Some of our door styles have different profiles to be highlighted on the drawer fronts than on the doors so you must pay attention. You also must pay attention to insure the thickness of the line and density of the color are consistent with the

- sample and with what your fellow glazers are doing so that when the job is complete it all matches in appearance.
- h) Some jobs will have fluted fillers on them. The flutes on these fillers need to be highlighted as well.
 - i) Basically you need to completely paint the glaze into the flute with a brush and then very carefully using a cotton rag over your fingertip wipe the glaze striving to leave the complete flute heavily covered with glaze and the lines straight and smooth.
 - i) Carvings (onlays, corbels, moldings, etc).
 - i) To highlight these items you use your small brush and outline all of the raised portions of the carving. Some of these can be tricky so if you have any questions about what to highlight please ask your supervisor.
 - ii) After outlining the raised portions you use the rag over your fingertip to clean off everything that needs to be cleaned leaving the glaze along all edges and in all recesses.
- 5 Proper glazing
- a) If a job is described as glazed rather than highlighted it means that the glaze completely covers the finished sides of all parts (doors, drawer fronts, finished sides, finished interior parts, and molding)
 - b) Before beginning any glazing you must insure your glaze is well stirred and all the pigments are in suspension within the solution.
 - i) If the pigments are not all in suspension (pulled off the bottom of the bucket and mixed well until floating within the solution) then the color of the finished product will not be correct. It may only vary slightly to the naked eye when seen by itself but will look much worse when placed directly beside a previously finished part.
 - c) To apply the glazed finish correctly you daub a rag lightly into the glaze and then completely cover the part you are working on with glaze. Rub it on in a circular motion and then finish by wiping it with the grain of each piece of wood. Leaving a light coating of glaze so that the appearance matches the sample. Too much glaze will change the appearance as will too little glaze.
 - d) Some parts that can cause problems:
 - i) Small doors on painted jobs where the grain is completely covered can be glazed on the center panel the wrong way. This means it will be rejected when it is hinged or fitted to the cabinet it belongs to. If you are not sure which way the grain is running please stop and ask your supervisor! He or she can check the door sizes on the door list and tell you which way is correct.
 - ii) Flat panel doors can be difficult to get an acceptable appearance on because your rag needs to be pushed smoothly up against the door frame rail at the top and bottom to get clean straight glaze line up to the rail as close as possible. This will take some practice.
 - iii) Constant consistency is another issue to be discussed. After the job is finished it is not uncommon for a repair part or an additional piece to be requested for from the customer. Most of these come through on our 5-day repair system. It is very important for our colors to remain the same day in and day out because we are constantly running additions for jobs that may have been produced six

weeks earlier. These new parts must match the original job in color and appearance.

Flat finishing line operator

Mission: To keep watch over spray machine, conveyors, vertical oven, boiler and finishing materials to insure proper performance at all times. And to monitor and record materials used and recycled always keeping chemical containers tightly sealed when not in use to reduce our environmental impact.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System, Hazardous Waste Program

- 1 The panel cleaner
 - a) The purpose of the panel cleaner is to remove any dust and debris that may have settled on the parts as they were awaiting loading.
 - b) The way it works
 - i) Under the hood of the panel cleaner you will find a horse hair brush that rotates counter to the feed to brush off the dust particles and debris, hold-down rollers that ride on top of the parts and hold the part in place while it is brushed, an in-feed air knife that blows a very concentrated stream of compressed air against the in-coming parts to remove loose dust, a vacuum blower connected to our dust collection system that pulls the dust out of the hood and exhausts it into a baghouse located outdoors.
 - ii) In order for the panel cleaner to work properly it must be adjusted to the proper height for the thickness of the product that is running through it. And it must be kept clean and never be run without the dust extraction system turned on.
- 2 The light curtain
 - a) The purpose of the light curtain is to read the location of the parts on the feed bands. It tells the machine controller where the parts are located so that the controller can trigger the spray guns when they reach the proper distance from the edge of the part and also un-trigger the spray gun when it reaches the tailing edge of the part.
 - b) The way it works
 - i) There are light sensing units located just below the surface where the holes are in the aluminum throat plate. This unit senses when they are covered and the light does not get through and transfers this information to the machine controller.
 - c) Problems that may occur
 - i) If you see spray guns firing where there is not a part located then it could be possible that there is a piece of debris that has fallen into one of these holes thus blocking the light and telling the machine to spray. If this is the reason then you should be able to blow this debris out of the hole with compressed air. The affected hole will be approximately in line with the area where the spray gun is being triggered.
 - d) The spray machine

- i) The purpose of the spray machine is to accept varnish from a pump station located near the machine. And to apply this varnish onto the wood parts that make up our products.
- ii) The way it works
 - (1) The varnish is pumped into the machine at a fluid pressure of between 300psi and 1100psi depending upon the orifice size in the fluid tip of the spray gun, the wet millage we wish to apply, and the viscosity of the varnish being applied. It is pumped into a manifold located above the spraying area. Each spray gun is connected to this manifold a fluid hose is used to dispense the varnish to each gun, and an air line used to trigger the gun and hold the atomized fluid pattern together.
 - (2) The spray guns currently installed are an Air-mix variety, Which belongs to the air assisted airless family
 - (a) This means that atomization of the fluid stream is accomplished mainly by means of fluid pressure. The fluid pressure we use is between 250psi and 1100psi the actual pressure will depend on the fluid tip used and the viscosity or the material you're spraying.
 - (b) The atomizing air adjustment is to assist in controlling the fan pattern more than atomizing the fluid stream. If you notice that your spray pattern has a definite large center area with a smaller round or tail at the top and bottom of the pattern then you need to increase your atomizing air pressure adjustment until those tails are just drawn into the fan pattern and it looks like one homogeneous oval pattern
 - (c) !!!! WARNING!!!! With fluid pressures this high it is imperative that you never trigger your spray gun onto you hand or any other part of your or anyone else's body. The high fluid pressure could inject the finishing material into your body and bloodstream. This could cause serious illness, poisoning, or death.
 - (d) Cleaning the spraygun
 - (i) Use a brush (nylon or brass only NEVER STAINLESS STEEL) to scrub off the air cap as required throughout the day.
 - (ii) At the end of production remove the air cap from the spray gun and soak in thinner overnight in a tightly closed container.
 - (iii) With the air cap removed use the brush to brush the end of the fluid tip with a little thinner then wipe with a solvent clean-up shop towel.
 - (iv) Never soak the air section of a spraygun in thinner unless it is already scheduled for a complete rebuild as the air seals and o-rings will not tolerate thinners and these items will be immediately destroyed.
 - (3) This is a relatively complex machine normal operator responsibilities include:
 - (a) Keeping the interior of the spray area clean
 - (b) Keeping the spray guns clean, insuring that all the spray guns are firing consistently and that the spray fan pattern is consistently acceptable.

- (i) !!!!!!!! This is very important!!!!!! The parts move through this machine at a fairly rapid rate and if our spray guns are not functioning well we can turn a normal production day into a huge headache in a very short period of time. Make sure you're looking at the pattern every time you are near the spray machine and go by the machine every few minutes!
- (c) The conveyor belt that transports parts through the spray area goes through a cleaning station located under the conveyor on the rear out-feed of the machine. This system is comprised of a chromed steel scrubber roller that must be kept wet with solvent by means of the diaphragm cleaning solvent pump. The solvent fluid lines and head need to be open to allow the solvent to flow into the roller/plastic scraper interface area where it pools to wet the scrubber. As the scrubber roller turns it removes the over-sprayed coating and then hit a spring steel scraper that removes the coating from the scrubber roller. The coatings clean from the scrubber flow down the outside of the spring steel scraper and drop onto a 4" wide mylar belt traveling across the width of the machine. The coatings are then scraped off this belt into a bucket. It is very important to monitor and inspect this system frequently to maintain the proper cleaning of the transport belt.
- (4) The conveyors are designed to move the product into the vertical oven in charges (a charge is the width of the conveyor and the length of the oven). The conveyors have two electric eyes that read the first part of the charge.
- (5) The vertical stack oven is designed to cure the coating on the parts so that it may be further processed in a shorter time frame.
 - (a) The way it works
 - (i) The parts move into the in-feed side of the oven as they come down the conveyor. After the charge is inside the oven the oven should index up one tray space. Then the tray on the bottom of the out-feed side should be moved over to the in-feed side via two transport chains with dogs on them to push the tray over. The parts are subjected to ambient temperatures as they enter the oven and as they move up the in-feed side it will get progressively warmer until they reach the top and transfer via the same two chains back over to the out-feed side. Then the temperature will get progressively cooler as they come back down to the bottom and are unloaded. The maximum temperature goal is a surface temperature at least 125 degree Fahrenheit. This is the temperature that will activate our catalyst into immediate cross-linking phase.
 - (b) Problems that may arise
 - (i) Virtually all of the functions of the oven are controlled by a plc located in the control cabinet. All of the inputs required by this plc come from different proximity and limit switches throughout the machine. These switches tell the controller that one step is completed and the trays are in the correct position to begin the next step of the cycling process. Ninety percent of the problems with

the oven come from either a proximity switch that is not closed or a part that did not get all the way into the machine and therefore opened the in-feed limit switch, located over the area above where the infeed conveyor ends and the oven conveyor begins, telling the controller that the oven indexed up without any blockage in the way (i.e. A part that did not get all the way inside the oven hit the proximity switch paddle opening the switch causing the oven to stop). There is also one of these switches on the back end of the oven so that if a part goes past the end of the conveyor it will open this switch stopping the oven. You will be taught more about this as you are trained on the job.

(c) The Sealer Sanding machine

- (i) The purpose of this machine is to sand the sealer by means of two abrasive brushes. This machine also has a vacuum bed to hold the parts securely while they are being sanded and some rubber covered pressure rollers to push the parts down onto the transport belt.

(d) You will be working with the following chemicals:

- (i) Thinner R-Blend solvent. This product has been developed to provide the combination of solvency potential we need to clean the belt and the fluid lines of the machine, And an acceptable evaporation time as well insuring that the belt is dry when it come back up on the front side to pick up incoming parts.

(ii) Sealer

1. Our sealer is a post catalyzed, high solid, product that has been specially formulated to meet both our environmental concerns and the esthetic appearance concerns of our customers.
 - a. Constituents of concern
 - i. Ethyl Benzene, Xylene, Aromatic Naphtha Light, 1,2,4-Trimethylbenzene, Ethanol, Isobutyl Alcohol, 2-Butoxyethanol, Acetone, Ethyl 3-Ethoxypropionate, n-Butyl Acetate, Formaldehyde,

(iii) Topcoat

1. Our topcoat is also a specially blended post catalyzed high solids low VOC product built to our specifications to meet both the requirements of our air quality permit and the appearance and feel that we wish to produce.
 - a. Constituents of concern
 - i. Ethyl Benzene, Xylene, Aromatic Naphtha Light, 1,2,4-Trimethylbenzene, Ethanol, Isobutyl Alcohol, 2-Butoxyethanol, Acetone, Ethyl 3-Ethoxypropionate, n-Butyl Acetate, Formaldehyde,

(iv) The catalyst

1. Our catalyst is known as an acid catalyst and contains a solid powdered acid called para-Toluene Sulfonic Acid. Although this acid based product will not burn your skin in a manner you

would recognize immediately, Wear the gloves we provide when handling any chemicals.

- a. Constituents of concern
 - i. Ethyl Alcohol, Methyl Isobutyl Ketone,
- (e) Mixing the chemicals:
- (f) We have two agitators on the pump station next to the spray machine. These are used to stir the product prior to taking any material out of the drum. Our sealer and topcoat both contain flattening paste used to reduce the sheen of the product. You must make certain that all of the flattening paste has been stirred into the solution prior to going on any further in the mixing process. If it is not mixed in the flattening paste will be the whitish colored pasty material you can scrape off the bottom of the drum.
- (g) Once the product is properly stirred you will need to extract the amount of material you are instructed or that you estimate we will need for the days production. !!!! IMPORTANT!!!! We only want to catalyze enough material to spray the day's production. The extracted material is put into the mixing drum. Then the catalyst is added, the required amount of catalyst is listed depending on the materials you're mixing. For example: if we are mixing clear coat and you start with 20 gallons of clear the list states it is catalyzed at 5.76 ounces per gallon, therefore, $20 \times 5.76 = 115.2$ ounces of catalyst is required. There are 128 ounces in one gallon.
- (h) After the material is catalyzed you will need to check the viscosity of the material this is done by using a Zahn #2 viscosity cup. You submerge the cup into the liquid material, and you need a watch with a second hand or a stop watch, you begin timing as soon as you lift the cup out of the liquid and continue timing until the stream of liquid coming out of the bottom of the cup breaks the first time. Our material should be sprayed at a viscosity of between 18 and 25 seconds in a Zahn #2 cup. The viscosity should be recorded each day so that should we have any problems that arise we can go back and see what it was on the given day. If the viscosity is not within this window consult your supervisor for instructions.
- (6) Record keeping requirements
 - (a) You must keep a usage inventory of all the chemicals we use each day.
 - (i) We have a log for the solvent used and also the amount of solvent removed from the machine and put into the hazardous waste drum.
 - (ii) We have a separate log for the sealer, topcoat and catalyst as well as any other additives we put into them.
 - (b) These are turned into your supervisor at the end of each shift.

Flat finishing line loader

Mission: To load wood parts onto our flat finishing line in such a manner as to keep our environmental impact as low as possible by fully utilizing the transport belt and keeping parts close enough together for good spray transfer efficiency and far enough apart for good edge coverage.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Hazardous Waste Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System

1 Preparing the chemicals

e) You will be working with the following chemicals:

(1) Our cleaning solvent is Thinner LT-R

(a) Constituents of concern

- (i) Heptane, N-Propyl Acetate, Xylene, Propylene glycol methyl ether, Toluene, Ethyl Acetate, Ethyl Alcohol, N-Propyl Alcohol, Methanol, Methyl Isoamyl Keytone, Acetone, N-Butyl Acetate, Methyl Ethyl Keytone, Isopropyl Alcohol.

ii) Sealer

- (1) Our sealer is a post catalyzed, high solid, low VOC product that has been specially formulated for us to meet both our environmental concerns and the esthetic appearance concerns of our customers.

(a) Constituents of concern

1. Ethyl Benzene, Xylene, Aromatic Naphtha Light, 1,2,4-Trimethylbenzene, Ethanol, Isobutyl Alcohol, 2-Butoxyethanol, Acetone, Ethyl 3-Ethoxypropionate, n-Butyl Acetate, Formaldehyde,

iii) Topcoat

- (1) Our topcoat is also a specially blended post catalyzed high solids low VOC product built to our specifications to meet both the requirements of our air quality permit and the appearance and feel that we wish to produce.

(a) Constituents of concern

1. Ethyl Benzene, Xylene, Aromatic Naphtha Light, 1,2,4-Trimethylbenzene, Ethanol, Isobutyl Alcohol, 2-Butoxyethanol, Acetone, Ethyl 3-Ethoxypropionate, n-Butyl Acetate, Formaldehyde,

iv) Catalyst

- (1) Our catalyst is known as an acid catalyst and contains a solid powdered acid called para-Toluene Sulfonic Acid. Although this acid based product will not burn your skin in a manner you would recognize immediately, Wear the gloves we provide when handling any chemicals.

(a) Constituents of concern

1. Ethyl Alcohol, Methyl Isobutyl Ketone,

v) Mixing the chemicals:

- (a) We have two agitators on the pump station next to the spray machine. These are used to stir the product prior to taking any material out of the drum. Our sealer and topcoat both contain flattening paste used to reduce the sheen of the product. You must make certain that all of the flattening paste has been stirred into the solution prior to going on any further in the mixing process. If it is not mixed in the flattening paste will be the whitish colored pasty material you can scrape off the bottom of the drum.
 - (b) Once the product is properly stirred you will need to extract the amount of material you are instructed or that you estimate we will need for the days production. !!!! IMPORTANT!!!! We only want to catalyze enough material to spray the day's production. The extracted material is put into the mixing drum. Then the catalyst is added, the required amount of catalyst is listed depending on the materials you're mixing. For example: if we are mixing clear coat and you start with 20 gallons of clear the list states it is catalyzed at 5.76 ounces per gallon, therefore, $20 \times 5.76 = 115.2$ ounces of catalyst is required. There are 128 ounces in one gallon.
 - (c) After the material is catalyzed you will need to check the viscosity of the material this is done by using a Zahn #2 viscosity cup. You submerge the cup into the liquid material, and you need a watch with a second hand or a stop watch, you begin timing as soon as you lift the cup out of the liquid and continue timing until the stream of liquid coming out of the bottom of the cup breaks the first time. Our material should be sprayed at a viscosity of between 18 and 25 seconds in a Zahn #2 cup. The viscosity should be recorded each day so that should we have any problems that arise we can go back and see what it was on the given day. If the viscosity is not within this window consult your supervisor for instructions.
- (2) Record keeping requirements
- (a) You must keep a usage inventory of all the chemicals we use each day.
 - (i) We have a log for the solvent used and also the amount of solvent removed from the machine and put into the hazardous waste drum.
 - (ii) We have a separate log for the sealer, topcoat and catalyst as well as any other additives we put into them.
- (3) These are turned into your supervisor at the end of each The process of loading the finishing line
- a) Our first coat is always sealer so we begin by loading sealer into the spray system.
 - b) We begin our production run by sealing the front side of all 2-sided parts (doors, drawer fronts, finished sides with finished interiors, finished adjustable shelves).
 - i) Whenever the machine is running product you should walk around to the in-feed of the spray machine and feel the metal bands to insure they are free of varnish and dry enough that they will not leave band marks on the back side of our products.
 - ii) There is a mirror installed on the short wall to the left of the machine and in line with the out-feed section of the spray machine. This mirror was installed

so that you can keep an eye on the out-feed of the spray machine as well as the in-feed. You are watching for parts that are not traveling properly on the feed bands and also products that do not make the transition from the steel band transport system of the spray machine to the vinyl conveyor belt.

Sometimes parts become skewed in the machine and can cause the parts on the feed-works to pile up on each other or break a transport band.

- c) When these parts are all sealed on the front then we seal the back of the parts and also all the one sided parts. Depending on how many two sided parts we have we may load all the one sided parts in order to push the two sided out of the oven.
 - d) After all parts are sealed completely we change the material over to topcoat to begin the final coating process. During this down time, we also clean all the spray caps and make sure all the spray guns are firing properly and the fan patterns are good. We also clean the interior of the spray booth of all sealer over-spray particles in order to reduce the amount of trash or solid particles we get contaminating our topcoat. Because of all the moving and twisting parts and hoses inside the spray machine it is imperative that it stay clean and free of semi-loose particles of sealer, varnish, or dust and dirt because as the machine runs it will be falling off the machine parts and into our wet topcoat.
- 2 Handling and inspecting the product.
- a) As the machine loader you will handle every single piece of finished product required to be run for any given production day. We depend on you to help us keep our product quality high.
 - i) You can do this by using proper handling techniques.
 - (1) Most of the “in-process” damage that occurs inside the plant is from someone mishandling the parts.
 - (2) Just because they call it hardwood doesn’t mean it is! If parts are slid across one another they will be scratched or damaged.
 - (a) You want to lift the parts off of a pile equally straight up not lift one edge and pull the part across the one below it.
 - (3) If parts are set on the floor they will be damaged
 - (a) Wood parts dent easily so if there is sand or dirt on the floor and a wood door for example is set down on top of it, it will more than likely be damaged on the bottom edge. Also if there is sawdust or particles on one part and another is stacked on top of it there will be a dent in whichever has the finished side or both.
 - ii) You must also constantly inspect parts for quality both for handling damage and staining problems but also sanding or any other defects you may see.
 - (1) It is much easier to perform a required repair to any part prior to the part being sealed. Once the sealer has been applied you can no longer simply sand one small area of the piece and re-stain the piece. Now we will have to strip the whole part. This is because the sealer will lock the color to the panel and no matter how much we try to “blend in” the small repaired area with the rest of the part you will always be able to see the outline of the repair.
 - (2) If you were inspecting the parts on the first pass into the finishing line and when you got them back for the second pass you notice damage then you

should stop the machine briefly to inform your supervisor of the damage occurring during the finishing line process. This way he or she can watch the personnel to figure out where the damage is occurring and retrain whichever person is responsible or if it is a machine problem he or she can address it with the maintenance department to get the machine repaired before more damage occurs.

- iii) The cefla machine operator is your service member. He or she can assist you in moving any defective parts away from your work area and bring them back after they are repaired properly. We do not want you leaving the machine unless it is shut down for some reason so utilize this person as a runner, assistant, helper in order to keep the machine running at full production speed at all times.

Flat finishing line hand sander

Mission: To scuff sand wood parts on our flat finishing line in such a manner as to keep our product quality high and assist in cleaning up the machine line every day in such a manner as to keep our environmental impact as low as possible.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Hazardous Waste Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System

- 1 You are responsible for scuff sanding and material handling functions that need to happen as parts unload from the vertical stack oven. All of our parts receive a sealer coat on each finished side and a topcoat on each finished side.
 - a) The sealer coat gets scuff sanded with 240 grit sandpaper on the flat areas, and scotch-bright pads on the profiled areas to provide a nice smooth surface for the topcoat to lie on.
 - b) Some parts are sanded with an orbital air sander and some by hand.
- 2 You will be involved in certain clean-up responsibilities associated to the auto-finishing line that may require the use of solvent from time to time, that is why you will need the training on hazardous waste, solvent use, and chemical labeling.

Flat finishing line sealer sander operator
Currently not using

Mission: To scuff sand wood parts on our flat finishing line in such a manner as to keep our product quality high, Operate the in-line surface sander and set up the thickness of the parts you are running as the product changes throughout the day and assist in cleaning up the machine line every day in such a manner as to keep our environmental impact as low as possible.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Hazardous Waste Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System

- 1 The Roba-Tech is designed to sand sealer on our finishing line. The thickness of the part is adjustable and needs to be set up for the parts you are sanding.
 - a) We sand parts that are ¼", ½", ¾" and 1" thick. The machine elevation needs to be adjusted accordingly.
 - b) If you need to shut down the feed belt on the sander to catch up with scuff sanding the parts keep in mind that the feed belt on your machine is tied to all the other conveyors on the line. This means that if you stop your conveyor all the conveyors will be shut off if you do not get yours turned back on by the time the oven is ready to take in another charge of parts.
 - i) Shutting off your conveyor may be required from time to time because of the parts that are loaded in the charge that just came out of the oven. This is fine but do not allow the conveyor to stay off long enough to shut down the other transport conveyors or you will affect our ability to finish production for the day by making the cycle take longer than it should.
 - c) Since you now know that you have the ability to shut down the whole line we want you to use this tool to help us keep our quality up. If you see poor quality coming out of the oven shut it down and let us know so we can determine whether or not we want you to continue to run or if we need to fix something elsewhere on the line to improve the quality!
 - i) An example would be if you see band marks or if you see stripes across the parts where we are missing sealer or topcoat.
- 2 You will also be scuff sanding manually both by hand and with an orbital air sander depending on what you are sanding.
 - a) The parts must be handled very carefully. These are wood parts and wood is not real hard, it is susceptible to scratching, denting & chipping. The finish is also soft at this point, our finish takes about 30 days to reach full hardness and abrasion resistance so if you slide one part into another, one of them or both will probably be damaged. If you slide a part across the belt it could scratch the finish on the bottom side.
- 3 You will also assist in unloading the machine after the final topcoat is applied and the parts are exiting the oven.

- a) Keep in mind what we have just said about handling the parts! Use care and handle them gently. Do not allow them to bang into one another or scrape across one another while stacking them off the line.
- 4 Cleaning the machine line
- a) You will be involved in certain clean-up responsibilities associated to the auto-finishing line that may require the use of solvent from time to time, that is why you will need the training on hazardous waste, solvent use, and chemical labeling.

Flat finishing line un-loader

Mission: To carefully stack wood parts coming off the end of our flat finishing line in such a manner as to keep our product quality high, and assist in cleaning up the machine line every day in such a manner as to keep our environmental impact as low as possible.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Hazardous Waste Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System

- 1 You are responsible for off loading our finishing line
 - a) It is important for you to keep the parts separated into one-sided parts and two sided parts. This should be very simple since the parts are loaded in the same manner. The two sided parts go in first, Then the one sided parts.
 - b) Two sided parts need to go through the finishing line 4 times total and the one sided parts only twice. This is because each finished side will receive one coat of sealer and one coat of topcoat.
 - c) As you handle the parts, you must be very careful. Do not allow any parts to fall off the conveyor onto the floor, as they will surely be damaged. These are wood parts and wood is not very hard, it is susceptible to scratching, denting & chipping. The finish is also soft at this point, our finish takes about 30 days to reach full hardness and abrasion resistance so if you slide one part into another one of them or both will probably be damaged. If you slide a part across the belt, it could scratch the finish on the bottom side. As you stack the parts into the carts, keep these things in mind.
- 2 Cleaning the machine line
 - a) You will be involved in certain clean-up responsibilities associated to the auto-finishing line that may require the use of solvent from time to time, that is why you will need the training on hazardous waste, solvent use, and chemical labeling.

Finish Touch-up Technician

Mission: To carefully touch-up in process damage if it is minor or cost effective, in such a manner as to keep our environmental impact as low as possible.

Training Required: Right to Know, Proper Chemical Handling Safety Procedures, Hazardous Waste Procedures, Voluntary Respirator Program, Clean-up Solvent Accounting System

- 1 You will receive cabinets or parts from the quality control inspector
 - a) On these parts the inspector will mark by means of masking tape the minor defects seen in the part.
 - b) If these minor defects are repairable with little effort AND the finished appearance will be that of a new piece of furniture then you will attempt to fix or touch-up these areas.
 - i) If in the end you feel the touched up area will be easily visible or if the amount of time required to perform the touch-up makes it uneconomical you must talk to your supervisor prior to attempting to repair the piece.
- 2 In the process of repairing these parts you will be using any or all the chemicals we use in production plus all the materials contained in the touch-up area used strictly for touch-up. This means that you will be working with materials that fall into the hazard communication program as well as many others. See the additional training notes above.

Hazard Communication Program Lesson plan

Objectives: To train our employees how to read a Safety Data Sheet, instruct them where they are kept and how to request copies of them whenever they need to. As well as a basic description of the hazardous materials we work with and how to work with them safely.

- 1 As an employer in the state of Michigan we are prohibited from discharging or discriminating against any employee who exercises his or her right to obtain information regarding hazardous chemicals used in our workplace.
- 2 As an alternative to requesting an SDS from the employer, the employee can seek assistance from the Michigan Department of Consumer and Industry Services, Division of Occupational Health, at (517)-335-8250, or the General Industry Safety Division at (517)-322-1831, to obtain the desired SDS.
- 3 What is a safety data sheet (SDS)?
 - a) This is a 16-section form required by miosha to be provided to us from any and all suppliers who supply us with materials that could be hazardous to health.
 - b) Information in the SDS should be presented using the following 16 headings in the order given below.
 - i) 1. Identification
 - (1) GHS Product Identifier
 - (2) Other means of identification
 - (3) Recommended use of the chemical and restrictions on use
 - (4) Supplier's details (including name, address, phone number etc.
 - (5) Emergency phone number
 - ii) 2. Hazard(s) identification
 - (1) GHS classification of the substance/mixture and any national or regional information
 - (2) GHS label elements, including precautionary statements. (Hazard symbols may be provided as a graphical reproduction of the symbols in the black and white or the name of the symbol e.g. "flame", "skull and crossbones");
 - (3) Other hazards which do not result in the classification (e.g. "dust explosion hazard") or are not covered by the GHS.
 - iii) 3. Composition/information on ingredients

- (1) Chemical identity;
 - (2) Common name, synonyms, etc.;
 - (3) CAS number and other unique identifiers
 - (4) Impurities and stabilizing additives which are themselves classified and which contribute to the classification of a substance.
 - (a) The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cut-off levels.
- iv) 4. First-aid measures
- (1) Description of necessary measures, subdivided according to the different routes of exposure, i.e. inhalation, skin and eye contact and ingestion;
 - (2) Most important symptoms/effects, acute and delayed.
 - (3) Indication of immediate medical attention and special treatment needed, if necessary.
- v) 5. Fire-fighting measures
- (1) Suitable (and unsuitable) extinguishing media.
 - (2) Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products).
 - (3) Special protective equipment and precautions for fire-fighters.
- vi) 6. Accidental release measures
- (1) Personal precautions, protective equipment and emergency procedures.
 - (2) Environmental precautions.
 - (3) Methods and materials for containment and cleaning up.
- vii) 7. Handling and Storage
- (1) Precautions for safe handling.
 - (2) Conditions for safe storage, including any incompatibilities.
- viii) 8. Exposure controls/personal protection
- (1) Control parameters e.g. occupational exposure limit values or biological limit values.
 - (2) Appropriate engineering controls.
 - (3) Individual protection measures, such as personal protective equipment.

ix) 9. Physical and chemical properties

- (1) Appearance (physical state, color etc.);
- (2) Odor;
- (3) Odor threshold;
- (4) pH;
- (5) Melting point/freezing point;
- (6) Initial boiling point and boiling range;
- (7) Flash point;
- (8) Evaporation rate;
- (9) Flammability (solid, gas)
- (10) Upper/lower flammability or explosive limits;
- (11) Vapor pressure;
- (12) Vapor density;
- (13) Relative density;
- (14) Solubility(ies);
- (15) Partition coefficient: n-octanol/water;
- (16) Auto-ignition temperature;
- (17) Decomposition temperature;
- (18) Viscosity.

x) 10. Stability and reactivity

- (1) Reactivity;
- (2) Chemical stability;
- (3) Possibility of hazardous reactions;
- (4) Conditions to avoid (e.g. static discharge, shock or vibration);
- (5) Incompatible materials;
- (6) Hazardous decomposition products.

xi) 11. Toxicological information

- (1) Concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects, including:
- (2) Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);
- (3) Symptoms related to the physical, chemical and toxicological characteristics;
- (4) Delayed and immediate effects and also chronic effects from short and long term exposure;
- (5) Numerical measures of toxicity (such as acute toxicity estimates).

xii) 12. Ecological information

- (1) Ecotoxicity (aquatic and terrestrial, where available);
- (2) Persistence and degradability;
- (3) Bioaccumulative potential;
- (4) Mobility in the soil;
- (5) Other adverse effects.

xiii) 13. Disposal considerations

- (1) Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

xiv) 14. Transport information

- (1) UN number;
- (2) UN proper shipping name;
- (3) Transport hazard class(es);
- (4) Packing group, if applicable
- (5) Environmental hazards (e.g.: Marine pollutant (Yes/No));
- (6) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code);
- (7) Special precautions which a user needs to be aware of, or needs to comply with, in connection with the transport or conveyance within or outside their premises.

xv) 15. Regulatory information

(1) Safety, health and environmental regulations specific for the product in question.

xvi) 16. Other information

(1) Fill in additional information as needed.

- 4 You may request to view or look at any SDS during any scheduled break or lunchtime, prior to work or after work if the plant manager is in the building. Or you may request through your direct supervisor anytime during work hours and he or she will forward your request to the appropriate person to get a copy made if that is what you request.
 - a) You should allow us as much lead time as you can so we can get you your copy as efficiently as possible but it should never take more than 24 hours for you to receive your copy.
- 5 Chemicals we use are named on our chemical inventory sheet

Hazard Communication For Formaldehyde

Lesson plan

Objectives: To train our employees about the risks associated to working with products containing formaldehyde. As well as a basic description of Formaldehyde and how to work with it safely.

- 1 In accordance with §R325.51472 Rule 22 we are required to inform our employees about the following health risks associated to the Conversion Varnish we currently use and its emission of formaldehyde, which has been demonstrated to be over 0.1 ppm.

1. What is formaldehyde?

Formaldehyde is a colorless, flammable, strong-smelling gas. It is an important industrial chemical used to manufacture building materials and to produce many household products. It is used in pressed wood products such as particleboard, plywood, and fiberboard, glues and adhesives, permanent press fabrics, paper product coatings, and certain insulation materials. In addition, formaldehyde is commonly used as an industrial fungicide, germicide, and disinfectant, and as a preservative in mortuaries and medical laboratories.

- i) Cancer

- (1) Evaluating the multitude of prior studies, scientific experts and regulators have focused most of their attention on nasopharyngeal cancers specifically, or on potential respiratory tract cancer generally.

- (a) There have been numerous studies conducted beginning in the 1950's and 60's up to 2004 to 2007 and using rats, mice for inhalation and ingestion and rabbits for skin sensitization and exposure. Having investigated some of these studies and reading the results it appears that in the cases of cancer the exposure had to be at a high enough concentration to cause cellular death or the formaldehyde molecule would cross-link with the nucleus DNA causing a break in the DNA structure. If this cross-link eliminated and repaired by the body's natural defense processes prior to cell regeneration it could result in a mutated or cancerous cell to develop.

- (b) The test study that seems to have resulted in most of the regulations concerning occupational exposure used rats exposed to a 6 ppm concentration. These rats developed lesions and tumors in the rear

sinuses area where the ear, nose and throat come together (nasopharyngeal cavity). Cells had been killed by contact believed to cause the lesions.

- ii) Irritation and sensitization of the skin and respiratory system. Eye and throat irritation
 - (1) When formaldehyde is present in the air some individuals may experience health effects such as watery eyes; burning sensations of the eyes, nose, and throat; coughing; wheezing; nausea; and skin irritation. Some people are very sensitive to formaldehyde, while others have no reaction to the same level of exposure.
- iii) Acute toxicity
 - (1) Definition: **Acute toxicity** describes the adverse effects of a substance which result either from a single exposure or from multiple exposures in a short space of time (usually less than 24 hours). To be described as *acute* toxicity, the adverse effects should occur within 14 days of the administration of the substance.
 - (2) 20 ppm is considered the exposure level of acute toxicity
- 2 Organic solvents are commonly used in wood finishing materials.
 - a) Definition: Organic solvent-A broad and common class of non-aqueous solvents.
 - b) Definition: Solvent-A solvent is a substance that dissolves another substance or substances to form a solution (a homogeneous mixture). The solvent is the component in the solution that is present in the largest amount or is the one that determines the state of matter (i.e. solid, liquid, gas) of the solution. Solvents are usually, but not always, liquids.
 - c) Organic solvents commonly used in our finishing materials are toluene, xylene, methyl isobutyl ketone, methyl ethyl ketone, naphtha, alcohols, butyl acetate, tert-butyl acetate, ethyl 3-ethoxy propionate, and acetone.
 - d) What the Haz-Mat chemical labels tell you about what's inside the container.
 - i) Chemicals are categorized into 5 levels of danger in three categories- Health, Flammability, Reactivity.
 - (1) Health: 4 is the worst rating.
 - (a) 4 means Deadly
 - (b) 3 means Extreme Danger
 - (c) 2 means Hazardous
 - (d) 1 means slightly Hazardous
 - (e) 0 means Normal Material
 - (2) Flammability: 4 is the worst rating.
 - (a) 4 means Flash Point Below 73 degrees F
 - (b) 3 means Flash Point Below 100 degrees F
 - (c) 2 means Flash Point Below 200 degrees F
 - (d) 1 means Flash Point Above 200 degrees F
 - (e) 0 means Will Not Burn
 - (3) Reactivity: 4 is the worst rating
 - (a) 4 means may detonate
 - (b) 3 means with shock and heat may detonate
 - (c) 2 means violent chemical change
 - (d) 1 means unstable hazard
 - (e) 0 means stable

- 2 Now that we know what the labels mean how do we handle these chemicals safely.
- a) Over exposure to the chemicals we use is the first hazard we need to understand. Osha has prescribed a pel. (personal exposure level) for most of the chemicals we use. These are specified on the SDS (material safety data sheet) that we keep on file in the plant manager's office.
 - i) Since we spray most of our finishing materials and solvents evaporate into the air the most common route of exposure is through respiration. Our spray booths in the stain room exhaust 28,000 cubic feet of air per minute and our makeup air unit forces 30,000 cubic feet of fresh outside air into the stain room per minute. What this does for us is completely replaces the air inside the room every 48 seconds. This insures that our exhaust fans exhaust the contaminated air at peak efficiency and keeps the air clean and contamination free inside the room.
 - ii) Other methods of exposure are through skin contact or by swallowing. Repeated or prolonged skin contact can result in defatting of the tissue as well as drying and cracking of the skin. Swallowing finishing materials may cause abdominal discomfort, nausea, vomiting and diarrhea. Dizziness and drowsiness can occur and possibly death.
 - iii) Splashes are the next chemical hazard we want to talk about.
 - (1) If you are working with liquid finishing materials and transferring them from containers then you need to wear splash goggles. If you ever get any chemicals into your eyes they need to be rinsed with fresh water for at least 15 minutes. You need to get the chemicals diluted as soon as possible.
 - (2) We have two eyewash stations
 - (a) One is just outside the stain room door in the glazing room.
 - (b) The other is mounted just in front of the breaker box beside the cefla.
 - (c) We also have sinks in our bathrooms if you would rather use a normal sink. But make sure to hold your eye open and let the water run through it from one side to the other. Flowing against your exposed eyeball.
 - b) Flammability is an extremely important danger especially with acetone. It is imperative that whenever you are pumping or pouring from one metal container into another that both metal containers be connected together by a bonding wire. You also need another bonding wire to be connected to one of the metal containers and also connected to our grounding and bonding bars to allow a current path for any and all static electricity that is created by a solvent falling through air. Let me just say this again every time you transfer a chemical from one metal container into another you must have the containers bonded electrically together and grounded.
 - i) If you discover a fire you need to insure that someone is sent to activate the fire alarm as well as inform the plant manager or production manager and then begin evacuating the building immediately.
 - c) In order to keep all risks as low as possible it is important to ALWAYS keep containers holding solvents covered tightly to eliminate the flashing off of the solvent and the invisible fumes from the solvents.

LaFata Enterprises Inc. Voluntary Respirator Program

Respirators in our plant are not required

- a) This is because the exposure levels of the chemicals of concern are extremely low and well below the Osha prescribed personal exposure level.
 - i) This is accomplished through engineering of exhaust air and make-up air providing for extremely efficient collection and exhausting of the vapors and aerosols from spray finishing operations in our stain room and the automated flat finishing line.
 - ii) We do allow employees the use of the 3M Z-8577 filtering facepieces.
 - (1) This filtering facepiece does not have a face seal however it does have a carbon lining to help alleviate the smell of the organic vapors in the glazing & finishing operations and protects against particulates and dust for maintenance or shop use if an employee so desires to use one.

Substance	CAS #	ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
		TWA	TWA	STEL	STEL	Ceiling	Ceiling
Acetone	67-64-1	750	1800	1000	2400	-	-
2-Butanone (Methyl Ethyl Keytone)	78-93-3	200	590	300	885	-	-
n-Butyl Acetate	123-86-4	150	710	200	950	-	-
tert-Butyl Acetate	540-88-5	200	950	-	-	-	-
Carbon Black	1333-86-4	-	3.5	-	-	-	-
Ethyl Benzene	100-41-4	100	435	125	545	-	-
Formaldehyde	50-00-0	0.75	0.9	2	2.5	-	-
Heptane (n-Heptane)	142-82-5	400	1600	500	2000	-	-
Hexone (Methyl isobutyl keytone)	108-10-1	50	205	75	300	-	-
Naptha	8030-30-6	100	400	-	-	-	-
Petroleum distillates (Naptha)		400	1600	-	-	-	-
Stoddard Solvents	8052-41-3	100	525	-	-	-	-
Toluene	108-88-3	100	375	150	560	-	-
VM & P Naptha	8032-32-4	300	1350	400	1800	-	-
Xylene	1330-20-7	100	435	150	655	-	-

- b) The chemicals of concern and the Miosha prescribed exposure limits are:

i) The temperature in the sprayroom will be ambient outside temperatures with substantial air flow and ambient humidity during the summer, And heated air to 65 degrees or higher during the winter with substantial air flow and ambient humidity.

ii) Our current physician is:

a. Dr. Anthony F. Warner
Peartree Medical Clinic
51863 Schoenherr Road
Shelby twp. MI. 48315
Telephone: 586-991-0903

Emergency Response to Hazardous Substance Release or Spill

In accordance with §R325.52130 we are required to have a written plan to handle any hazardous material spills or releases.

- 1) If there is a chemical spill the first thing to do is make an immediate estimate of the volume of the spill. There are two classifications of spills incidental and uncontrolled (requiring emergency response).
 - a) Incidental spills are those that can be readily cleaned up by the employees in the immediate area without risk to personnel via over exposure to fumes or ignition of the flammable vapors.
 - i) Examples
 - (1) If the spill takes place in the stain room and involves 5 gallons of stain or less and the exhaust fans and make-up air are running the possibility of vapor build up are non-existent and the possibility of the spill reaching a floor drain does not exist.
 - (2) A slow minimal leak develops in a drum or bucket and is leaking a very small amount of material. The leak can be stopped simply by laying the drum or bucket on its side and wedging something beside it so it won't roll.
 - (a) Contain the spilled liquid by using absorbent products designed for this purpose. Protect any floor or sewer drains from the spill. All the absorbent materials will become hazardous waste as the spill is soaked up into them. After the spill is cleaned up seal these materials in an open headed drum and mark as hazardous waste following the hazardous waste procedures.
 - (b) We have two small spill containment kits one is hanging on the wall beside the cefla flat finishing line. The other is stored on the wall just outside our chemical storage room in the south building.
 - (c) Our hazardous waste manager Leon Felcyn or Jim Jensen should be notified as soon as possible after a leak has been detected or a spill has occurred.
 - d) Uncontrolled spills are those that cannot be readily cleaned up by employees in the immediate area and require immediate evacuation of the area.
 - i) Examples
 - (1) If the spill takes place in the open area of the general shop space and involves a 55 gallon drum of solvent the building should be evacuated immediately and the plant manger, production manager or hazardous waste manager should be notified immediately!

- (a) In this scenario personnel should leave their machine or equipment in whatever state it is in when the spill happened ie. (Running or not) just evacuate without shutting down anything.
1. Our solvent fumes are heavier than air and will therefore travel quite far along the floor. The biggest concern here will be the possible ignition of the vapors by means of any type of spark or ignition source. Most all of our equipment contains motor control starters and contactors in their control cabinets, each of these produce a small spark as the contacts, with power applied connect or disconnect. This is why we don't want to shut them down until the situation can be assessed or the flammable vapor concentrations reduced by ventilation of the affected area.
 2. It is our policy that if dangerous situations arise concerning our flammable finishing chemicals that our local fire department will be called in to handle these situations. They have the knowledge and experience as well as the personal protective equipment required to safely and professionally take care of whatever the situation is. Whether it is a fire or a large amount of spilled flammable liquid

Hazardous Waste Procedures:

1. **What is Hazardous Waste? See 40 CFR §260, §261, §262**
 - a. A solid waste is defined in §261.2
 - b. A solid waste is a hazardous waste if it is listed in 40 CFR Part 261.30 unless it has been excluded from this list under §261.4(b)
 - c. The hazardous waste we will be most likely working with will be found under 261.31 “Hazardous wastes from non-specific sources”.
 - d. Our hazardous waste will be classified with the following numbers. §261.31
 - i. F003- The following spent nonhalogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl keytone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures and blends containing, before use, only the above spent nonhalogenated solvents; and all spent solvent mixtures or blends, containing before use, one or more of the above spent nonhalogenated solvents, and a total of 10% or more, by volume, of one or more of those solvents listed in F001, F002, F004, and F005 and still bottoms from recovery of these spent solvents and spent solvent mixtures.
 - ii. F005- is spent non-halogenated solvents: Toluene, methyl ethyl keytone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane. All spent solvent mixtures / blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents.
 - iii. There may also be Characteristic Waste. This is solid waste that exhibits any of the following characteristics.
 - iv. Ignitable- starts burning easily, liquids with a flash point less than 140 degrees F. Solids that spontaneously ignite, or oxidizing material, and ignitable compressed gases defined by US DOT regulations 40 CFR 173.115 This includes gases that form flammable mixtures in air. Examples include mineral spirits, methyl isobutyl keytone and other solvents, solvent based paints, solvent soaked rags, gasoline, cleaning fluids, naphtha, sludge containing petroleum, and ignitable compressed gas like hydrogen, propane, and acetylene. These have a hazardous waste number of D001
 - v. Corrosive- Liquids that dissolve steel or aqueous wastes with a PH less than or equal to 2.0 or greater than or equal to 12.5 Examples include caustics like alkaline cleaners and battery acid. These wastes have a hazardous waste number of D002.
 - e. Exclusions we can use.
 - i. Empty containers are not subject to hazardous waste regulations if the following conditions are met. §261.7(b)(1)
 1. The containers or inner lining that held non-acute hazardous waste have had as much material removed as possible (by practices commonly used to remove that material such as pouring, pumping and aspirating). AND the amount of waste residue is any of the following. One inch or less, or No more than 3 percent by weight of the total capacity for containers 110 gallons or less in size, or No more than 0.3 percent by weight of the total capacity for containers over 110 gallons.
 - f. The requirements to maintain a small quantity generator status.

- i. If we can produce at least 220 lbs. And not more than 2200 lbs. Of hazardous waste / month. Our waste weighs approximately 440 lbs./ drum. This means we need to produce not more than 5 drums of waste /month.
 - g. If we produce more than 5 drums or the total weight of the waste adds up to more than 2200 lbs in any one month then we become a “Large Quantity Generator”.
 - i. At the present time we are generating in excess of this amount and we are classified as a Large Quantity Generator of hazardous waste.
- 2. As a Large quantity generator we are allowed to accumulate hazardous waste for a maximum of 90 days with no limit on quantity. §262.17(a)
 - a. The hazardous waste must be stored in a tightly closed container (steel drum) that does not leak. §262.17(a)(1)(ii)
 - b. Drums in storage need to be inspected weekly for leaks. §262.17(a)(1)(v)
 - c. Drums must be marked with the date accumulation begins in that particular drum and this date needs to stay on the drum until the drum is shipped. §262.17(5)(c)
 - d. The drums must be labeled as “hazardous waste F003, F005” and the label needs to have the flammable class 3 pictogram. §262.17(5)(a)(b)
 - e. Even though we do have some coating waste ie. the material reclaimed from the transport belt on the cefla, any catalyzed material left over unused. This would normally carry waste code D001. However, since we are adding this material to the drum that also contains the F-listed waste, it takes that F number because of contact with the F-listed waste.
 - f. The drums used to store hazardous waste must be cleaned of any spillage stains in order for the hazardous waste hauler to pick up the drum. They cannot put drums onto their truck that have the appearance of chemical leaking out the top and running down the side of the drum, even if it is dry.
 - g. Our company prefers to ship hazardous waste out as quickly as is economically feasible which currently is twice per month.
- 3. What does our waste stream consist of:
 - a. We will use an inexpensive reclaimed solvent that is suitable for cleaning our equipment and flushing our fluid lines and spray finishing equipment.
 - b. Once the solvent mixture is used to actually clean up with, it will also contain trace amounts of our stains, paints, sealers and topcoats.
 - c. This material will be hazardous waste codes of F003 and F005.
 - d. Any off spec coating or coating catalyst combination that otherwise would have been sprayed out would be classified as hazardous waste code D001.
- 4. Our production system and how we track our solvent & generate and care for our hazardous waste.
 - a. We shall use the solvent blend described above for cleaning operations associated to the flat finishing line, stain room, touch-up.
 - b. Whenever any solvent is taken from the drum it must be logged on the solvent inventory sheet as being taken and by whom and for what purpose. This will also tell us where exactly in was used.
 - c. We will have a small receptacle in each spray booth for spray gun flushing and the operator will spray his flushing solvent or waste stain or paint into this receptacle. He or she will empty this receptacle into our collection drum located beside the cefla at the end of each shift. He or she must also log the chemical waste they are putting into the drum on the solvent inventory sheet. This is very important! Because we report our VOC emissions the amount of line flush solvent that has been recaptured should not be reported as being emitted into the air.

- d. Anytime any solvent is added to the solvent collection drum it must be logged on the solvent inventory sheet along with who is putting it in and where it came from.
 - e. The collection drum needs to be kept electrically grounded at all times.
 - f. The receptacles and the collection drum must remain covered at any time it is not being actively added to or emptied and must be labeled with the words “Hazardous Waste” along with the proper number.
 - g. Whenever solvent is being transferred from one receptacle to another or the drum you must bond the receptacles to each other or to the drum to prevent static discharge possibilities! This is for your safety and by OSHA regulation and failure to utilize proper safety procedure could result in employee disciplinary action up to and including discharge.
 - h. When the first waste is added to a new drum for the first time the date of this add will become this particular drums “Accumulation Date” and this date needs to be written onto the label on the drum. When this drum is full it will be capped and moved to the hazardous waste holding area until it is picked up.
 - i. The cover shall be installed in such a way that no water can enter the drum and no solvent can exit the drum. The drum must be inspected for leaks weekly until they are picked up by our hazardous waste hauler. This right now is approximately every two weeks.
5. Emergency procedures and equipment §262.17(a)(6)
- a. The area where hazardous waste is generated must be equipped with the following items: §262.252
 - i. An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.
 - ii. A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;
 - iii. Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and
 - iv. Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
6. Employee Training Requirements, As a Large Quantity Generator there are the following training requirements and contingency planning that need to take place. §261.17(a)(7)
- a. The topics required to be addressed include familiarizing personnel with emergency procedures, emergency equipment and supplies, emergency alarm systems and management procedures including implementation of the contingency plan. As it is relevant to the position in which they are employed.
 - b. This training must be executed by an individual trained in Hazardous Waste Procedures.

- c. The personnel required to receive training include every person who is involved in some way with our hazardous waste program. And their job description as it relates to the hazardous waste program.
 - i. This includes spray booth operators.
 - 1. Spray Booth Operators
 - a. It is your responsibility to insure that you are using a properly labeled and suitable container to receive your line flush solvent and any coating materials flushed from your equipment.
 - b. It is also your responsibility to empty your 5 gallon container used during the production day at the end of the shift after your final flush and clean-up.
 - i. This container will be brought to the hazardous waste accumulation drum and properly bonded to the drum and emptied into the drum.
 - ii. If the hazardous waste drum happens to be completely empty and there is not an accumulation date on the label you must enter the date where the label calls for the accumulation date.
 - c. Then your bucket will be securely covered and placed back into your booth ready for use again tomorrow.
 - 2. Sprayroom supervisor
 - a. In addition to the responsibilities listed above you have the additional responsibility to ensure all of your spray booth operators follow the described procedure every day.
 - 3. Cefla Operator
 - a. You are responsible for properly labeling the hazardous waste drum whenever one drum is capped off and a new drum is installed in its place.
 - b. We have a hazardous waste label available and this label will be installed on the new drum with the accumulation date and contents which will always be F003, F005, D001.
 - c. You are also responsible for insuring the hazardous waste drum is properly grounded with the grounding wire. And personnel who add material to the hazardous waste drum follow proper safety procedures including solid metal to metal bonding of the drum and the container they are emptying.
 - 4. Cefla Supervisor
 - a. You are responsible for making sure all employees working on the flat line follow proper procedures to insure we produce high quality finishes safely and efficiently

5. Forklift Operator that moves the hazardous waste after accumulation and loads the material onto a hazardous waste haulers truck or trailer.
6. Any personnel involved in cleaning up the drums used to ship the waste in.
7. Purchasing agent as long as it remains his or her responsibility to schedule the hazardous waste pick ups.
8. Production Manager
 - a. You have ultimate responsibility to insure all employees and supervisors are following our rules, policies, guidelines and working effectively in a safe and conscientious manner .

7. Record keeping and management

- a. The purchasing person will be responsible for arranging the pick-up of our hazardous waste.
- b. Any time he or she has waste scheduled for pick up he or she must also log the intended pickup in the “HAZARDOUS WASTE” folder on the network R:\ drive. This allows everyone involved to look up when we last shipped and when we will next ship if it is scheduled. We are currently shipping approximately 8 drums every two weeks or 16 drums per month. This makes us a Large Quantity Generator.
- c. When the hazardous waste hauler picks up our waste they will provide a hazardous waste manifest for us to sign. We should receive a copy of it within 60 days. If we do not get it we should question the hauler to make sure we get it. We also need to file an exception report with the following-

DEQ Waste And Hazardous Materials Division

Division Chief
 P.O. Box 30241
 Lansing, MI. 48909-7741

And

EPA Region 5
 Sharon Kiddon (Dr-7J)
 77 West Jackson Blvd.
 Chicago, IL. 60604

We need to include a copy of the manifest in question and a letter stating we have not received the confirmation of delivery from our hauler.

- d. The hauler is also required to send us a “LAND DISPOSAL RESTRICTION & CERTIFICATION FORM”. We need to keep one copy of this form on hand at all times and we should receive a new form every year.
- e. We will maintain a file with all our hazardous waste manifests and our land disposal form in the accounting office. We will hold all records for a period of not less than 3 years.
- f. Training records required by §262.17(a)(7)(iv)
 - i. The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job.
 - ii. A written job description for each position listed above. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company

location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position.

- iii. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed above.
- iv. Records that document that the training or job experience, required has been completed with 6 month of starting job and an annual refresher training every year.
- v. Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility.
- g. If the company closes or quits generating hazardous waste this program must follow procedures for closure listed in 40 CFR §262.17(a)(8)

8. Universal Waste:

- a. The following are universal waste which we need to manage. Fluorescent Light Bulbs (not broken), Mercury and sodium vapor light bulbs (not broken), Lighting ballasts (fluorescent , mercury vapor and sodium vapor), Dry Cell Batteries, Any mercury switches we may change, Cathode ray tubes from Computer monitors and televisions.
 - i. These items must be stored in a place safe from damage and extreme heat. The storage vessel must be labeled with the date the first piece of waste was put into it. Non-compatible wastes cannot be stored together in the same vessel.
 - ii. We can accumulate this waste for not more than 12 months and then ship it to a universal waste reclaimer or hauler.
 - iii. Universal waste does not require a hazardous waste hauler or a manifest.

Class Rosters For Required Training

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