

Sample Toxics Use Reduction Plan

(Dry Cleaner Name)

Date

Sample Toxics Use Reduction Plan for Dry Cleaners

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Note – this sample TUR plan is intended for use by Massachusetts dry cleaners required to conduct planning activities geared toward reducing their use of the toxic chemical perchloroethylene. All required elements of a TUR plan are covered in this Sample Plan. Suggestions for activities and considerations associated with a good faith exploration of TUR opportunities are provided, but are not intended to be exhaustive. Cleaners are encouraged to be creative in their TUR planning activities.

Facility-Wide Information

Statement of Management Policy

Sample Management Policy

(Dry Cleaner Facility Name)

_____ *(Dry Cleaner Facility Name)* is committed to reducing the use of toxic chemicals in our processes. In support of this commitment, our facility plans to:

- Conduct continual research and improvement of dry cleaning operations with an eye towards toxic chemical use reduction, worker safety, and energy efficiency.
- Involve both employees and facility management in toxics use reduction (TUR) research and modifications to the extent practical.
- Implement, monitor, and maintain technically feasible and cost effective TUR options.

Through this commitment, _____ *(Dry Cleaner Facility Name)* will continue to produce quality products that we can take pride in and add value for our customers while striving for a healthier and safer workplace, community, and environment.

(Signature of facility Owner/Management)

Employee Notification

Check all that apply:

Yes No
 We gave notice to employees of the pending TURA plan by January 1, 2012.
(The plan is due July 1, 2012.)

The method(s) included:

Yes No
 Posted a notice on the facility bulletin board.

Yes No
 Included notice in employee pay stubs.

Yes No
 Discussed the planning process at staff meeting(s).

Yes No
 Offered incentives for good ideas.

Yes No
 Other: _____

Yes No
 Other: _____

Scope of Plan

_____ (*Dry Cleaner Facility Name*)

_____ (*Address Location*)

This location of _____ (*Dry Cleaner Facility Name*) cleans garments using the following technologies in the percentages noted here:

Solvent	% of Garments Cleaned Using this Method
Perc	
Other (<i>please identify</i>)	

PRODUCTION UNIT #1:

Production Unit(s) Description:

Production Unit Processes: The processes associated with Production Unit #1 include dry cleaning, shirt laundering and garment pretreatment.

Toxics chemical used: Perchloroethylene, or perc, CAS # 127-18-4, which is used at the facility to clean garments in dry cleaning equipment. Perc is also used in spotting agents as identified above for particularly difficult garment stains.

Unit of Product used for this Production Unit:

Perc use, Production Unit #1:

Equipment or Materials	Amount or % of perc

The processes we used for identifying TUR options for this Production Unit include (*check all that apply*):

- Brainstorming with workers
- Conformance with ERP Best Practices described in the “Dry Cleaners Environmental Certification Workbook” to assure operations and maintenance practices are met
- Discussion with peers and attendance at pertinent process demonstrations at their garment cleaning facilities
- Direct contact with our vendors and manufacturers of equipment and alternative materials
- Review of trade literature and research, including TURI’s *Assessment of Alternatives to Perchloroethylene for the Professional Garment Care Industry*, 2011
- Periodic outreach to the Massachusetts Office of Technical Assistance (OTA) to identify specific new opportunities not previously considered.
- Other _____
- Other _____

The checklist included in Attachment D – TUR Opportunity Matrix is used to assist us in monitoring our TUR options identification process.

Based on our TUR options identification activities during this planning cycle, _____ (dry cleaner name) has identified the following TUR Options for implementation:

- Purchased _____ new equipment using _____ solvent.
- Changed pre-spotting and other treatment products to products that do not contain perc.
- Modified percentages of garments cleaned in various machines
- Implemented additional operational and maintenance control on existing equipment (see Attachment D)
- Other _____
- Other _____

REPEAT THIS SECTION FOR ADDITIONAL PRODUCTION UNITS

Predicted Reductions

In 2011, _____ (*pounds of perc*) were used at this facility. All perc was then generated as byproduct – in hazardous waste, fugitive air emissions, and residual amounts on the cleaned clothes.

Our two-year projection for 2012 is that the use of perc will be reduced by _____ %

This is the equivalent of reducing the use of perc by _____ (*pounds of perc*).

As all perc is generated as a byproduct in the cleaning process, the generation of perc byproducts (waste, air, residuals on clothes) is the same as the amount of perc used.

During the next several years, _____ (*Dry Cleaner Facility Name*) will work towards implementing additional toxics use reduction measures. Research will continue so as to learn about additional TUR options applicable to perc usage at the facility.

At this point, our five-year projection for 2016 is that the use of perc will be reduced by _____ %.

Production Unit Information

Production Unit #1: Perc Dry Cleaning. The following process flow diagram illustrates the movement of perc throughout this production unit.

(Add additional Process Flow Diagrams if more than one Production Unit is used)

Purpose of Chemical: Perc is used at the facility to clean garments in dry cleaning equipment. Perc is also used in spotting agents as identified previously for particularly difficult garment stains.

Unit of Product: _____

Use of Perc and Generation of By-Product and Emissions:

For the year 2011, the following is the amount **per unit of product** of perc used at the facility and its fate.

Calculation Worksheet for Per Unit of Product Values

Unit of product (lb cleaned in 2011)	Perc used per unit of product	Perc generated as byproduct per unit of product	Perc released or transferred off-site per unit of product

Summary of Byproduct and Emissions Reporting (for reference)

Row ID	Byproducts and Emissions	Calculation Elements	Form R and/or Form S Report Location	Value for Reporting Year
A	Total Perc usage for the year	Beginning inventory + Purchased amount – End inventory	Form S, Sec. 1e	
B	Treated on site	We do not treat any perc waste on site	Form S, Sec. 8.6	0
C	Treated off-site	= amount in waste sludge + amount in spent filters + amount spilled + separator wastewater (typically this wastestream is incinerated)	Form R, Sec. 6.2 Form S, Sec. 8.1c	
D		= amount in separator wastewater sent to municipal POTW (i.e., not included in hazardous waste amount)	Form R, Sec 6.1A	0
E	Total Treated Off-Site	= C + D	Form S, Sec. 8.7	
F	Recycled On-Site	(other than integral recycling within our machines, we do not recycle perc waste on site)	Form S, Sec. 8.4	0

Row ID	Byproducts and Emissions	Calculation Elements	Form R and/or Form S Report Location	Value for Reporting Year
G	Recycled Off-Site	<i>Unless your hazardous waste treatment facility recycles perc waste, assume this is zero</i>	Form S, Sec. 8.5	0
H	Disposed On-Site	No on site disposal occurs	Form R, Sec. 5.4 and Sec. 5.5	0
I	Disposed Off-Site	No off site disposal occurs	Form S, Sec. 8.1c	0
J	Total Byproduct Released	= E + K <i>If your facility has any values for rows B, F, G, H or I, then these must also be included in this value</i>	Form S, Sec. 8.7	
K	Emissions released to the environment on-site (= fugitive air emissions)	= A - E	Form R, Sec. 5.1	
L	Air emissions (stack or point source)	We do not have point source emissions	Form R, Sec. 5.2	0
M	Total on-site releases	= K	Form R, Sec. 5.1	
N	Total Emissions	= total used (A)	Form S, Sec 1f	

Identification of Potential TUR Techniques

The following people comprise the facility TUR Team, which conducted the planning activities associated with identifying feasible alternatives to perc:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

The following sources were used by the TUR Team to help in identifying TUR Techniques that are options for this facility:

- _____
- _____
- _____
- _____
- _____

The following technologies, procedures, and programs were identified as potentially achieving TUR at the facility:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

The following alternative solvents/cleaning systems were considered for implementation at the facility:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Technical Evaluation: TUR Options Matrix

TUR Technique	Description	Resources Used	Feasible? (yes/no)	Explanation	Estimate of Perc Use Reduction	Estimated Costs/Savings
Improved Operations and Maintenance						
In-Process Recycling and Reuse						
Process Modification or Redesign						
Process modernization						
Input Substitution (Perc alternatives)						
Product Reformulation			No	Not Applicable		
Total (to go in the "Predicted Reductions Section")					%	\$

Financial Evaluation

Supply information only for those financial aspects relevant for comparison.

Cost Item	Perc	Alternative #1	Alternative #2	Alternative #3
Material Purchase (solvent, detergent, spotting agents, etc.)				
New Equipment Purchase				
Filters				
Disposal				
Electricity Use				
Natural Gas Use				
Oil Use				
Water Use				
Machine Maintenance				
Labor				
Regulatory Costs (time and fees)				
Health & Safety Issues				
Insurance Issues				
Other, if relevant for comparison				

Summary & Schedule of Implementation

_____ (*Dry Cleaner Facility Name*) has chosen the following TUR measures for this facility:

<i>TUR Option</i>	<i>Schedule of Implementation</i>

TUR Options Requiring Further Evaluation: We are interested in the following additional technologies and/or processes and/or modifications:

- _____
- _____
- _____
- _____

TUR Options Rejected As Inappropriate: The following toxics use reduction options do not work for our facility:

- _____
- _____
- _____
- _____

Plan Certification

TUR Planner Certification

Based on my independent professional judgment as a toxics use reduction planner, I certify under penalty of law that the following is true:

- (a) I have examined and am familiar with this toxics use reduction plan;
- (b) the plan satisfies the requirements of 310 CMR 50.40; and
- (c) the plan demonstrates a good faith and reasonable effort to identify and evaluate toxics use reduction options.

Toxics Use Reduction Planner: _____

Signature: _____ Date: _____

Senior Management Official Certification

I certify under penalty of law that the following is true:

- (a) I have personally examined and am familiar with this toxics use reduction plan;
- (b) I am satisfied that any supporting documentation used in the development of the plan exists and is consistent with the plan;
- (c) Based on my inquiry of those individuals immediately responsible for the development of this plan, I believe that the information in the plan and any supporting documentation used in the development of the plan is true, accurate, and complete;
- (d) The plan, to the best of my knowledge and belief, meets the requirements of 310 CMR 50.40;
- (e) I am aware that there are penalties for submitting false information, including possible fines and imprisonment.

Senior Management Official: _____

Signature: _____ Date: _____

Attachment A – Plan Summary

Chemical Name: Perchloroethylene or perc
CAS #: 127-18-4

Two year Projected Changes (Total lbs.):

Use: _____

Byproduct: _____

Five-year Projected Changes (Total lbs.):

Use: _____

Byproduct: _____

Options Considered:

- *Input Substitution:* _____

- *Improved Operation & Maintenance:* _____

- *Process Modification:* _____

- *Other:* _____

Options Selected:

- _____
- _____
- _____
- _____

Additional information:

Attachment B – Facility Form S

**Attachment C – Perc Purchase and Machine O&M
Records**

Attachment D – Completed Toxics Use Reduction Opportunities Matrix