

OLYMPIC KITCHENS INC.

TOXIC SUBSTANCE REDUCTION PLAN - 2015

FOR

ETHYL ACETATE

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Consulting Engineers

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Dec 30, 2015

Olympic Kitchens Inc.
150 Nugget Avenue
Toronto, Ontario
M1S 3A7

Attn: Mr. George Katsis, Owner

Dear Sir:

RE: Toxic Substance Reduction Plan 2015

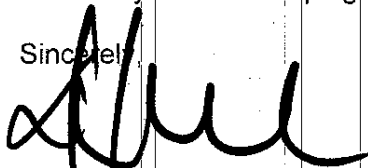
This is a new Toxic Substance Reduction Plan for ethyl acetate, CAS No. 141-78-6 as required under the Act for calendar year 2015. Olympic Kitchens already had a Plan developed and posted for other substances that met the TRA requirements. In 2015, ethyl acetate, met the TRA reporting threshold. In previous years, it was under the Reporting Threshold. Therefore, a Toxic Reduction Plan had to be developed for this substance. There is no need to amend the previous Plan.

The Act requires facilities to examine how they are using or creating prescribed toxic substances and to consider opportunities for reducing the MPO and emission.

We have investigated several options appropriate to your operation that are both practical and feasible to reduce their use and creation. They are 1. To recycle the VOC's in-house and 2. To switch over to water base paints. We recommend the latter as it will relieve your obligation to made building safety changes that will likely be forthcoming from the Fire Department. These changes will be very costly. The other benefit to you would be opting out of the annual NPRI/Reg 127 reporting and not having to do any more Toxic Waste Reduction Plans. Water base paints have very little VOC's and are not classified under "Flammable and Combustible Liquids" as defined in the Ontario Fire Code.

Please go thru the TRA Plan and be familiar with what is recommended. Once you approve of the Plan, Olympic Kitchens must then post a summary on the internet. We will help your internet designer on this. Please sign the attached Certification Statement as required under the Act. the Plan, sign the Certification Statement. It is required by law. We have signed ours as the Certified Toxic Substance Reduction Planner. Please keep the hard copy along with other environmental documents (eg ECA) on hand for MOE inspectors. A soft copy is also attached in a CD for your safe keeping. Once that is done, we will have to post it on the internet.

Sincerely,



M.D. Hum, P.Eng., MOE Certified Toxic Substance Reduction Planner
Principal

CC: Ms Linda Lamanna – Coordinator, Olympic Kitchens
Mr. Ilias Katsis – Manager, Olympic Kitchens

CERTIFICATION STATEMENT

OLYMPIC KITCHENS INC.


**150 Nugget Avenue
Toronto, Ontario
M1S 3A7**

REPORTING YEAR - 2015

I, George Katsis, Owner of the company Olympic Kitchens Inc., certify that I have read the Toxic Substance Reduction Plan and am familiar with its contents. To my knowledge the Plan is factually accurate and complies with the Toxic Reduction Act, and Ontario Regulation 455/09 made under this Act.

Toxic Substance Addressed in the Plan

- Ethyl acetate - CAS # 14'78-6



George Katsis, Owner

Dec 30, 2015

Date

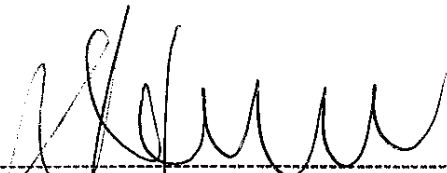
CERTIFICATION STATEMENT BY LICENCED TOXIC REDUCTION PLANNER

For
Olympic Kitchens Inc.
Reporting Year - 2015

I, Donald Hum, P.Eng, of DHM Engineering Ltd. am familiar with the finishing process and the toxic substances used at the Olympic Kitchens Inc. facility, 150 Nugget Avenue, Toronto, Ontario M1S 3A7. We believe the information presented and which our recommendations are based on is accurate. The following substance is required to have a Toxic Reduction Plan as it met the NPRI/Reg127 Reporting Threshold for the year 2015. Other substances posted in previous years remain unchanged.

Substance	CAS No.
ethyl acetate	141-78-6

Our Plan followed as closely as possible to the guidelines set out in the Planner's training. We believe it is in compliance to the Toxic Reduction Act, 2003, and the Ontario Regulation 455/09 made under this Act.



Donald Hum, P.Eng
MOE Certified Substance Reduction Planner Licence TSRP0307

Dec 30, 2015

Date

STATEMENT OF INTENT AND OBJECTIVES OF THE PLAN
REPORTING YEAR 2015

Statement of Intent:

The total VOC emitted at Olympic Kitchens Inc. as well as several specific VOC compounds in the paints/solvents used exceed the NPRI reporting threshold and fall under the TRA reporting criteria. In 2015, a new substance, ethyl acetate, CAS No. 141-78-6, met the reporting criteria. This Plan addresses the options to reduce the MPO and emission of this substance.

The Company will explore various options to reduce their use and emission where feasible and practical.

Objective

Olympic Kitchens Inc. manufactures kitchen cabinets and washroom vanities. Finish is a very important part in the over-all product quality. The objective is to find if there are any practical and viable options to reduce the use of VOC, specifically toluene, xylenes, MEK, acetone and methanol. In 2016, ethyl acetate, is now added to the list.

The finishing process in their industry is a mature one. Paint manufacturers have developed over the years, new paints that are water based containing significantly less VOC's. Also, there are now available many VOC emission capture systems. Spray equipment are now more efficient and spraying practice is better understood in reducing overspray wastage. In addition to exploring technology, the Plan will examine the operational practice, eg stocking, waste disposal, recycling etc. that can reduce the MPO of substances of concerned.

Target

The Plan is to reduce use and emission of the substances of concern by 30% over a period of 5 years, with the base year being 2015. This target could be upgraded if an appropriate technology is now available and the economics make sense. In such a case, the reduction could be 100% within a year.

Description of Substance Targeted

The following substance targeted met the TRA reporting criteria in the reporting year 2015.

- Ethyl acetate

This substance is contained in the current paints used for wood finishing. It is an important component and cannot be simply substituted.

Option

Olympic Kitchens is experimenting with water based paints and equipment modification needed to adapt to it. It needs to learn if an equivalent finish quality can be achieved compared to the current enamel based paints. A likely scenario is that Olympic Kitchens will switch over to at least 90% in the 2 to 3 years. The remaining 10% is to maintain existing requirements for enamel based paint finish.

The water based paints contain almost no VOC, hence, no ethyl acetate or other substances reported in the previous years.

Facility and Company Information

Facility Information

Facility Name	Olympic Kitchens Inc.
No. of Full Time Employees	28
NPRI ID Number	27958
Two Digit NAICS Code	33
Four Digit NAICS Code	3371
Six Digit NAICS Code	337110
Number of Full Time Employees	28
UTM Spatial Coordinates (NAD83)	640421 Easting, 4850527 Northing

3.3 Operator of the Facility Information

Name	Olympic Kitchens Inc.
Address	150 Nugget Avenue
Phone Number	416-266-8851
Fax Number	416-266-6236
E-Mail	www.olympickitchens.ca

3.4 Highest Ranking Employee at the Facility Information

Name	George Katsis
Address	150 Nugget Avenue
Phone Number	416-266-8851
Fax Number	416-266-6236
E-Mail	gkatsis@olympickitchens.ca

3.5 Parent Company Information

Name	None
Address	NA
Phone Number	NA
Fax Number	NA
E-Mail	NA

3.6 Toxic Substances for Which Facility Must Prepare Plan

SUBSTANCE	CAS NO.	MPO 2014 (mt)
Toluene	108-88-3	3.807
Acetone	67-64-1	0.216
Methanol	67-56-1	1.246
Methyl ethyl ketone	78-93-3	1.246
xylenes	1330-20-7	3.824
Total VOC		14.426

3.7 Plan Contacts

Name	Linda Lamanna
Position	Coordinator
Company	Olympic Kitchens Inc.
Address	150 Nugget Avenue
Phone Number	416-266-8851
Fax Number	416-266-6236
E-Mail	llamanna@olympickitchens.ca

3.8 Other Contact Information

i. Person Coordinating the Preparation of the Plan

Name	Linda Lamanna
Position	Coordinator
Company	Olympic Kitchens Inc.
Address	150 Nugget Avenue
Phone Number	416-266-8851
Fax Number	416-266-6236
E-Mail	llamanna@olympickitchens.ca

ii. Person Who Prepared the Plan

Name	Donald Hum, P.Eng.
Position	Principal
Company	DHM Engineering Ltd.
Address	1150 Kipling Avenue
Phone Number	416-489-0785
Fax Number	
E-Mail	dhmengltd@rogers.com

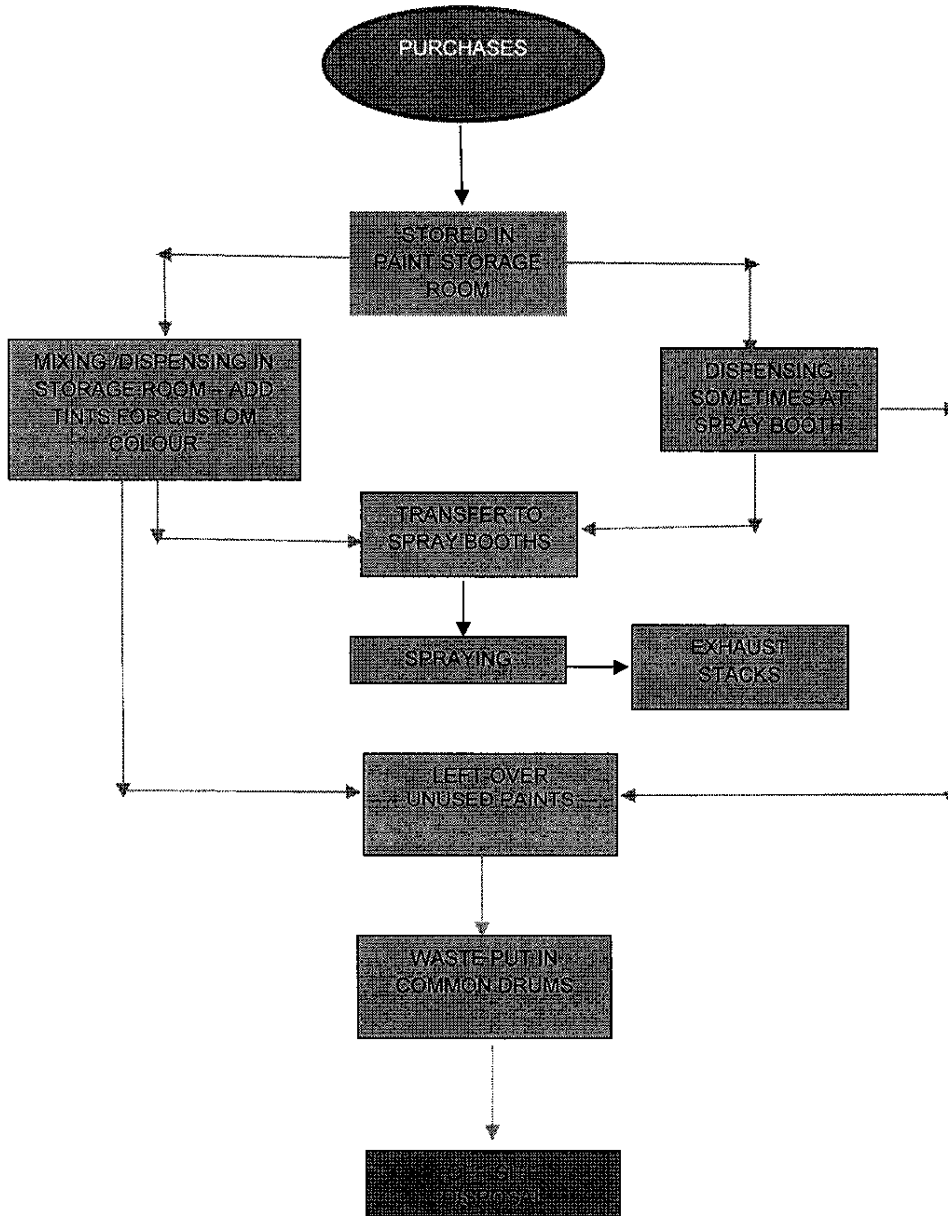
i. **Public Contact**

Name	Linda Lamanna
Position	Coordinator
Company	Olympic Kitchens Inc.
Address	150 Nugget Avenue
Phone Number	416-266-8851
Fax Number	416-266-6236
E-Mail	llamanna@olympickitchens.ca

ii. **Technical Contact**

Name	Donald Hum, P.Eng.
Position	Principal
Company	DHM Engineering Ltd.
Address	1150 Kipling Avenue
Phone Number	416-489-0785
Fax Number	
E-Mail	dhmengltd@rogers.com

4.0 Identification of Travel in Stages of Substances of Concern



5.0 Operation Reviewed Where MPO Can Be Reduced

Since all the substances of concern are in the same paints and go thru the same process stream, they can be lumped together for analysis. We will first look at the purchase records, MPO, application and in which paint/solvents where it is a significant component. From that, we will determine the practical and feasible options to reduce the MPO.

6.0 Quantification of Paint Usage (MPO)

Olympic Kitchens buys paints/solvents primarily from three suppliers - Akzo Nobel Coatings Inc., York Town Supplies Limited and Kersol Inc. Akzo supplies almost all their needs.

The following table identifies the paint product that contains significant ethyl acetate in the make-up and summarizes the MPO in 2015. The supplier is mainly Akzo Nobel. Other suppliers are a minor contributor.

Ethyl Acetate – CAS No. 141-78-6 2015 MPO Summary				
Akzo Nobel Product ID	Type	Amount MPO litres	Amount Ethyl Acetate in Product, litres	Percent of MPO
999-017-PA-20LP	Catalyst	1200	292	24.33%
401-028PA-205LM	Chemseal	1435	4	0.28%
803-1365PA-205LM	Ez thinner	7995	673	8.42%
220-214PA-160LM	Plastiprimer off-white	6400	19	0.30%
C42950PA-20LM	Rotospray 4491 brown	80	23	28.75%
890-6612PA-20LM	Rotospray acropolis c42998	75	21	28.00%
890-6600PA-20LM	Roto spray base C40025	260	83	31.92%
C44947PA-20LM	Roto spray agios petros	60	19	31.67%
C45268PA-20LM	Spray stain 8903 mahogany	37	4	10.81%

7.0 Operational Stages Reviewed as Potential for MPO Reduction

7.1 Inventory Assessment

From the volume summary and discussion with the Company, the amount over- bought for each paint, containing ethyl acetate, is small. We see no significant ethyl acetate MPO reduction here.

7.2 Spillages

Olympic Kitchens has since implemented a policy of leaving all paint/thinners etc stored in the original container, unopened. They are transported from the storage room to the spray booths, sealed. Mixing and dispensing are done ONLY in the spray booths. This practice will minimize any spills.

In addition, Olympic Kitchens is now doing the mixing and dispensing on a spill containment platform. Spills will be collected for off-site disposition.

These efforts are made to ensure that spillage will not a factor. It must be said, that spillage has never been a an issue at the Company.

7.3 Recycling

Unused paints/solvents, catalyst containing ethyl acetate are shipped off-site for treatment. This is the normal practice. The ethyl acetate reported MPO and air emission will remain the same, no matter how much is recycled. Controlling the inventor to prevent over stocking would have much more impact. Hence no economic analysis is done for this option.

7.4 Switching to Water Based Paints

Water based paints inherently have significantly less VOC's. Hence, switching to this type of paints will definitely allow Olympic Kitchens to file an "Exit Record" for the substance in the annual NPRI/Reg 127.

The downside is that these paints generally cost 40% more. We can estimate roughly the increase. This is for paints/solvents catalyst containing ethyl acetate.

Total Estimated Volume Paints/Thinners/Catalyst Purchased 2015 - 17,542 litres
Rough Price Per Litre for Traditional Paints/Primers /Catalysts - \$7.00
Rough Price Per Litre for Water Base Paints - \$12.00

Extra Cost for Paints = \$5.00 X 17,542
= \$87,710.00

This is a huge increase, but there are off-setting benefits:

- Exemption from NPRI/Reg 127 reporting and Toxic Waste Reduction Plan
- Reduced cost for spent paints/VOC etc for off-site treatment
- Workplace (air) is not as toxic, hence good for the employees
- Company can advertise that their products are green
- The paints are considered non-combustible, hence no fire and explosion safety concerns
- The Paint Storage Room does not have to meet Fire Code requirements.

The economic justification is in not having to renovate the Paint Storage Room, and the soft cost for not having to do the MOE reporting, the payback is:

Approximate total "saving" = storage room upgrade cost + annual NPRI filing and related costs
= \$90,000.00 + \$5,000.00
= \$95,000.00

Rough Payback = \$87,710.00/ \$95,000.00
= 0.92 years

This payback is for the first year, considering the retrofit cost of the Paint Storage Room for compliance to the Fire Code. This retrofit cost cannot be carried over for subsequent years. The extra cost for the water base paints will have to be bore as increased material production cost. Payback is therefore not applicable. An optimistic view is that after base paints become more mainstream, the price should fall.

7.5 Most Viable Option

Switching over to water based paints is the most feasible and practical option. Yes, there will be an increased cost, but that should decrease as more and more companies switch over. The biggest reason is that Olympic Kitchens will become more green – a reputation nowadays is highly prized. You might want to consider putting a green logo on all your products !

8.0 Conclusions and Recommendations

In our opinion, switching to water based paints is the best option. We understand there is a need to retrofit the Paint Storage Room for compliance to the Fire Code. If the switch is made, this retrofit will not be required – a tremendous saving and avoidance in hassle of dealing with the Fire Department

Yes, after the first year, Olympic Kitchens will have to pay more for the water based paints. In time, we will see the price drop as more and more companies switch over . We see the switch to green manufacturing because more and more consumers want to buy only from environmentally friendly companies. We think, it has become a question of switching over now or later.