

MD Stetson Company, Inc.

Toxic Use Reduction Plan

Management Policy	Tab 1
Employee Participation & Notification	Tab2
Plan Scope	Tab 3
Product Unit Definition	Tab 4
Purpose of Chemical	Tab 5
Identify TUR Options	Tab 6
Technical Evaluation	Tab 7
Economic Evaluation	Tab 8
Implementation Schedule and 2 year goal	Tab 9
Certification Statements (Copy of On-line Filing Certifications)	Tab 10
Supportive Data of MD Stetson Co Inc	Tab 11
Toxic Use Reduction Planners Certifications	Tab 12

Management Policy of 2020

M. D. Stetson Company, Inc. is a manufacturer of custodial products used in the industrial and institutional market. Most of the products manufactured at our location are formulated to contain non-hazardous chemicals. The products that use hazardous ingredients are manufactured with the minimum level of these ingredients to produce an effective product. Many of our cleaning products have been re-formulated to meet the criteria of the Massachusetts Environmentally Preferable Cleaning Products Program, Green Seal and/or Ecologo. The attainment of a responsible environmental policy includes improving manufacturing processes, offering environmentally preferred products, reducing waste, and reducing EPCRA listed chemicals. We encourage all employees to forward suggestions to aid in the reduction of toxic substances. It is this firm's intention to use Massachusetts TURA 310 CMR 50.40-50.49 to aid in providing a safer environment for our employees and safer products for our customers.

There has been no change in the management policy since the 2018 TURA update. At this time period of 2020, there has been an increase in the use of reportable chemicals (approximately 8% along with a 4% increase in sales of these products). These changes are the result of increased sales of environmentally preferred products, product reformulation and new product introduction. The management is aware that a serious effort is required to reduce the use of toxic chemicals. Steps will be taken to affect this decrease and shall be discussed in the Toxic Use Reduction Planning of this report.

Employee Participation & Notification

To comply with the planning requirement, MD Stetson has posted our notification of TURA planning on our employee notification board by January 1, 2021. (See Attached copy)

- Notify all of its employees of the requirements of the plan or plan update.
- Identify the toxic chemicals and production units included in the plan or plan update.

A list of hazardous chemicals used are available for review.

Process Management Plan is available for review.

- Make available the requirements and criteria for the plan.
- Solicit comments and suggestions from employees on toxics use reduction options and techniques.
- Utilize the employee safety committee for input.
 - The employee safety committee has a working representative from each area of the company.
 - Production
 - Warehouse
 - Service
 - Office
 - R & D Laboratory

The Toxic Use Reduction Plan and all supportive data shall be kept with the TURA file in the main laboratory of MD Stetson Company, Inc. for access by all employees.

An employee committee, with quarterly meetings, has been utilized for general safety concerns, to help reduce toxic chemical use, provide processing efficiency, and to provide more environmentally favored product processes. Input from various areas of the company should encourage new ideas. TURA management team inclusive of Michael Glass, Principal Owner, Gene Ricciardelli, Chemist, Cris Centeio, Production Manager, and outside TURA TURP John Shipps.

Plan Scope

This Toxic Use Reduction Plan is pursuant to Massachusetts TURA 310 CMR 50.40-50.49. M. D. Stetson Company, Inc (MDS) is a specialty manufacturer of janitorial maintenance chemicals for industrial and institutional applications. This company employs 44 people and is located at 92 York Avenue, Randolph, MA 02368. These specialty chemicals are manufactured for the marketing and distribution purposes of M D Stetson Company and Next Gen Supply Group. M D Stetson merged with Supreme Industrial Products Inc. in June 2019 as members of Next Gen Supply Group. M D Stetson Company is the sole manufacturer of chemicals.

MDS uses three toxic chemicals that are categorized as TURA chemical 1022 Glycol Ethers. Our Production Unit #1 uses the glycol ethers to produce one and five gallons (1 gallon = 1 unit of product) of cleaners, floor finish strippers and floor finishes. The glycol ethers are used as solvents in the cleaners and strippers and as coalescing agents in the floor finishes. The glycol ethers used are:

(EB) Ethylene Glycol Monobutyl Ether CAS #111-76-2

(DB) Diethylene Glycol Butyl Ether CAS # 112-34-5 now only used in one Sanitizer.

(DE-Low Gravity) Diethylene Glycol Monoethyl Ether Low Gravity CAS# 111-90-0

We have attempted TUR techniques of input substitution and product reformulation. We are at the maturity level of using glycol ethers. Continuing evaluations of bio-renewable solvent have proven unsuccessful, sustainable solvents in strippers and floor finish is an ongoing effort. Reduced glycol ethers in our floor finish formulas are ongoing but the changes in temperature and humidity in New England require a high demand of coalescent when compared to other areas of the country. Testing of non-zinc floor (green) finishes without any of the above glycol ethers by using VOC exempt glycol ethers has not led to a practical solution. Sales have increased of EB free EP Stripper (Environmentally Preferred Stripper) and also on our PC107, an environmentally preferred degreaser while our Universal Finish, a non-zinc-based floor finish, has increased. The environmentally preferred stripper has replaced our EB based strippers volume by an increased 9% in 2020 over 2019. The environmentally preferred strippers work with both traditional and non-zinc floor finishes. We recycle and reuse all the glycol ethers into similar products. Product unit modernization is not cost effective at this point as shown on the Section 8.

Product Unit Description Unit #1

MD Stetson uses a batch process to produce its chemical solutions. This process involves a system of air driven diaphragm pumps and hose connections to a general mixing vessel using standard propeller mixing techniques.

All rinses from the manufactured products are collected and recycled into the next batch of product and used as part of the make-up water for that batch-type or in similar-type products. The disposal of glycol ethers on or off-site is not allowed. We encourage the recycling of the glycol ethers in finished products. The system uses monitored diaphragm pumps and lines which reduce the likelihood of spillage or overflow.

EB is used as a component in our major floor finish strippers and the floor stripper market. EB is the least expensive (50% in cost) of the glycol ether group, water soluble and the most effective as a floor finish stripper. In the last two years the cost of EB has dropped 16% making its replacement economically non-feasible. We have tried to make a new stripper using benzyl alcohol, TPM and isononanoic acid. Although promising in the lab, this cheaper alternative to our environmental stripper has not proven itself effective in the field. The low water solubility of EB replacements has also limited their uses. The biodegradability and effectiveness of Tomakleen G12 provides a partial substitution in EB based cleaners and degreasers. A new replacement Tomakleen G14 is being offered in summer 2020 for evaluation.

All glycol ether rinse materials from the production of finishes are collected and recycled into the next batch. The system uses monitored diaphragm pumps and lines which reduce the likely hood of spillage or overflow.

Product unit modernization will not be cost effective now. We are reviewing the cost of a low-pressure electric steam generator in comparison our high pressure 40 year old Fulton boiler for products that require steam during manufacturing.

PRODUCTION UNIT 1 INFORMATION

FLOW DIAGRAM OF GLYCOL ETHER TO MAKE PRODUCT

1. Delivery by Tank Truck:

TANKER

Pumped over with a truck motor.

2. Storage:

Polymers

Glycol Ether EB

3. Product Manufacture:

Transferred by Air Pump

Transferred by Air Pump

Closed Kettle Wax Products

Enclosed Mixing Vessel
1500 gal

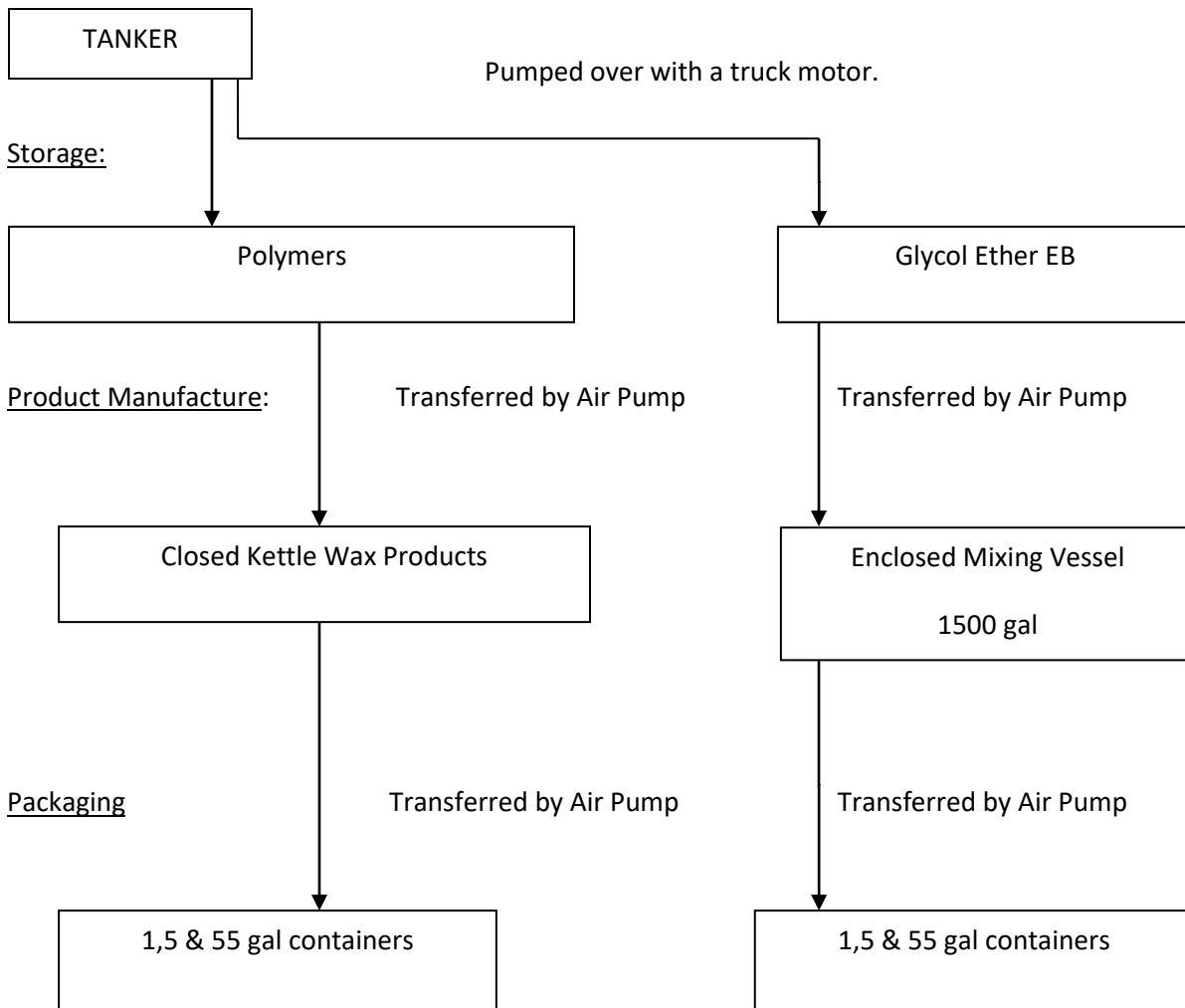
4. Packaging

Transferred by Air Pump

Transferred by Air Pump

1,5 & 55 gal containers

1,5 & 55 gal containers



Purpose of Glycol Ethers

EB is still used as a standard in the industry for floor strippers. EB is the least expensive (50% in cost) of the glycol ether group and is the primary effect solvent of a floor finish stripper. It is also included in degreasers and strong cleaning products. In some of these products it has been possible to replace EB with another glycol ether, primarily dipropylene-glycol n-butyl ether or an ethoxylated alcohol (Tomakleen G-12), to achieve better grease removal. In our environmentally preferred products EB has been replaced with a combination of alcohols, glycol ether and bio-solvent. Environmentally preferred hydrotropes have helped to increase the solubility of the bio-ester and reduce the level of EB but also cause a significant cost increase.

DE low gravity is the main coalescing components of our floor finishes. It is used to coalesce, and film form the polymer within reasonable dry times. It also insures the durability and buff responsiveness of the floor finish. The level and drying characteristics are determined to provide efficient film formation in a timely manner of 25 minutes or less for each applied coat. Any adjustment of their levels may cause film formation problems due to the various environmental conditions encountered during the application of a floor finish. New England is one of the toughest areas in the country due to the cold and humidity.

We have used TUR techniques of input substitution, product reformulation and in-process reuse. We are at the maturity level of using glycol ethers with our present floor finish polymer. Evaluations of different polymers requiring less coalescent or non-hazardous coalescing agents have been attempted and will continue. Our non-zinc environmentally preferred polymer has a lower requirement for coalescent content. Continued evaluation of new sustainable and renewable bio-solvents in strippers and floor finishes is an ongoing effort. Improved operation and maintenance are a continuing technique. We recycle and reuse all the glycol ethers into similar products.

Identifying TUR Options

MD Stetson Co, Inc is continually reviewing and utilizing TUR Techniques to replace toxic chemicals used in our products.

Process for Identifying TUR Option:

- Product supplier publications, information, webinars and meetings.
 - Tomakleen G14
 - Elevance Clean 1000
 - Elevance clean 1200
 - Eastman Omnia
 - Steposol Citri-met
 - Hexyl Cellosolve
 - Propyl Cellosolve
 - Akemia Polymers
 - Dow Polymers
 - BASF Polymers
 - Vitech International QNG degreasing biodegradeable surfactant
 - Essential Chemical Polymers and Waxes
 - Environmental Fluids Degreasing Surfactants
- Brainstorming sessions-Upper management, production supervisors, lab and line personnel
 - More efficient turbine meters are used.
- Outside Lab research and available research information
 - Ethanol Bio substitutes
- Trade web-publications
 - Coatings World
 - ISSA publications and webinars
- TURA publications and newsletter
 - TURI Lab email
 - TURA email newsletters
- Trade meetings on TUR
 - EPA Safer Choice
- Industry Trade Conventions and Supplier conventions.
 - ISSA
 - Various Suppliers
- Patent and other coating reviews.
- Review of other industries using similar coatings.
 - Wood coating industry
 - Can coatings industry

TUR Options Requiring Further Evaluation regarding existing products:

- Evaluate alternates to EB in floor finish strippers.
- Evaluate alternative to glycol ethers in floor finishes and degreasers.

- Evaluation of higher concentrated floor finishes with lower volatile organic compounds.
- Review and revise chemical handling and production scheduling.
- Evaluate new technologies and polymers requiring less plasticization and lower coalescent levels.
- Evaluate new techniques and equipment to help reduce the use of strippers and/or floor finishes.

Technical Evaluation

TUR Options that proved successful:

- Using zinc containing polymer and waxes that incorporates less zinc for crosslinking and less glycol ethers to coalesce and plasticize the film. Evaluated BASF Polymer Acrofloor 1000 and Omnova Solutions Mor Glo Ultra AR.
- A non-Zn polymer Omnova MG-G1 based floor finish that does not contain zinc. This system has been developed to have similar gloss and durability of traditional finishes. The system uses lower coalescing solvents and a new coalescent package. It also incorporates different plasticizers and leveling agents. Non-zinc floor finishes have gained significant market increase. It presently has a 26% of our finish market. We expect it to reach 30% or more in 2020 as renewed interest in Massachusetts have already provided promising orders from several customers and new service customers.

TUR Options that were rejected:

- New replacements for EB. We have evaluated partial replacement of EB with “surfactant solvents” for grease cutting and floor finish strippers and found that they were not as effective and not cost effective. We have tried new biodegradable solvents resulting in minor substitutions. Evaluations of other glycol ethers do not have the same efficiency of removal and water solubility that are unique for EB.
- Replacement of existing glycol ethers with environmentally preferable solvents in the floor finishes. We have looked at various levels of coalescing agents in place of DE. The thought is that the evaporation rate may be increased if we can surface harden the finish in multiple coat applications of the floor finishes. Ultimately, as a finish appears cured but has slow evaporation solvent a recoat problems known as “ghosting” appears in multi-coat systems. This renders the system inadequate as a floor finish.
- Revising customer application techniques. We have tried to develop a high gloss; high solids finish that would require only two coats with less coalescent and slower coalescing. Basically, building two coats in place of with the same gloss and lower solvents. Initial lab trials proved promising with two coats system. The problem arises several days or weeks later when another coat causes the system to cloud or “ghost”. The solvent system will not allow additional clear coats even when dried. This method is still under investigation.

Areas of Related Similar Interest but not TUR Options:

- Change in technical application has reduced the use of EB base floor strippers. Clients have been instructed in the use of orbital sanding techniques to remove coats and finish allowing the ability to recoat the floors without “deep stripping” the floors for rejuvenation. Cost of purchasing new equipment has been a problem point. This is a slow process with customers.
- Lower VOC requirements with our floor finishes have been met. This has been determined through state initiatives and has resulted in a lower VOC product that may be more temperamental to various environmental conditions.
- Biodegradable surfactants are being evaluated as environmentally preferred replacements for existing surfactants in existing products. This has proven successful in some products so the solvent can be replaced with the “green” surfactant.

Higher demand for concentrated cleaners has resulted in the use of less product packages.

Reformulation of carpet care product line using environmentally preferred surfactants is our next development.

Economic Evaluation

Cost to replace two 500 gal tanks with larger 1000 gal tanks and a more efficient updated motor:

Cost to Replace 2 steam jacketed tanks	Used \$20,000 each.	J little Mercer, Rehoboth, MA
	New \$90,000 each	Glacier Tanks, Washington
Replace fluorescent lighting with LED lighting	Under review	Working with Richard Brothers Electric

Replacement of EB in floor finishes strippers.

- Various environmentally preferable solvents were evaluated. Most failed for technical reasons. In our line we have reformulated our environmentally favorable stripper based on DPnB and Rhodiasolv Iris. This product was designed and introduced to be more price competitive than previous versions. This new product was introduced in fall 2014 that is price competitive. Supply for Iris has proven problematic as Europe uses it more than in the states.
- Existing EB based strippers decreased 10% in 2019. The use of the new environmentally preferred stripper did increase and cheaper butyl stripper from competitors replaced it.

Glycol Ethers used in Floor finishes.

- Reductions of glycol ethers in our floor finishes have been accomplished as the polymers themselves have been changed. It has also been required due to state advocacy, specifically California. The lower amount of glycol ethers has been reformulated in our zinc-based finish. The decreased amount in the non-zinc finish system is due to the polymer requiring less coalescent. The volume of non-zinc floor finish has increased to 26% of our total finishes fabricated.

Cost to replace meters with weigh cells on tank.

- Each tank equipped with 4 weigh cells would cost approximately \$4,400. Two electronic readouts \$3,500.00. Associated wiring and rigging \$8,500.00. Total cost \$16,400.00
- Presently management does not see a justification for the expenditure.

New Scale and platform:

A new scale and platform have been installed. The electronic scale allows us to weigh drums and totes allowing a more efficient accounting of weight to measure chemicals. The platform allows access from both sides of the chemical storage facility and ease transport and weighing. Total Cost \$6,200.00

Implementation Schedule and 2 year Goal

EB IN FLOOR FINISH STRIPPERS

- Continued review with suppliers, vendors, and internet for a partial or full replacement. Cost has always been an issue.
- Promote alternative techniques and methods.
- Evaluating with success a tighter use percentage. For example, we have found that most of our customers will use a stripper with 10% -15% less glycol ether by allowing a longer dwell time.

GLYCOL ETHERS IN FLOOR FINISHES

Evaluate new polymers to replace existing and reduce glycol ethers.

- Non-Zinc polymer floor finish sales have increased replacing zinc cross-linked finishes. The usage has gradually increased.
- We need to improve the durability and are working with suppliers, their labs and on our own to achieve this. Long term durability is good with the correct maintenance program.
- Evaluation techniques of:
 - New coalescing solvents in existing and with new polymers
 - Replacement of coalescing solvents with LVP-VOC exempt solvents is a work in progress.
 - Balance of dry time, coalescing and film affect is achieved only with trials through all weather conditions. This typically takes 18 months.

PRODUCT UNIT MODERNIZATION

Keep communications open with vendors and suppliers to evaluate new avenues of mixing, product filling and in-line filling machinery, techniques. We will be looking at a new labelling system to reduce waste of paper labels and increase efficiency.

IMPROVED OPERATION AND MAINTENANCE

- A new computerized inventory system has been implemented as of Jan 2018 in the overall company to reduce time and error of inventory.
- We have improved our metering systems to a new model with 2-3% accuracy.
- We have investigated the use of load cells on our mixing tanks. Economics have stopped its introduction. The use of new platform and scale will result in improved efficiency and better product weighing.

Certification Statements

Copies from On-line Filing

2020 SUPPORTIVE DATA OF M. D. STETSON COMPANY, INCORPORATED

Option: Floor Finishes

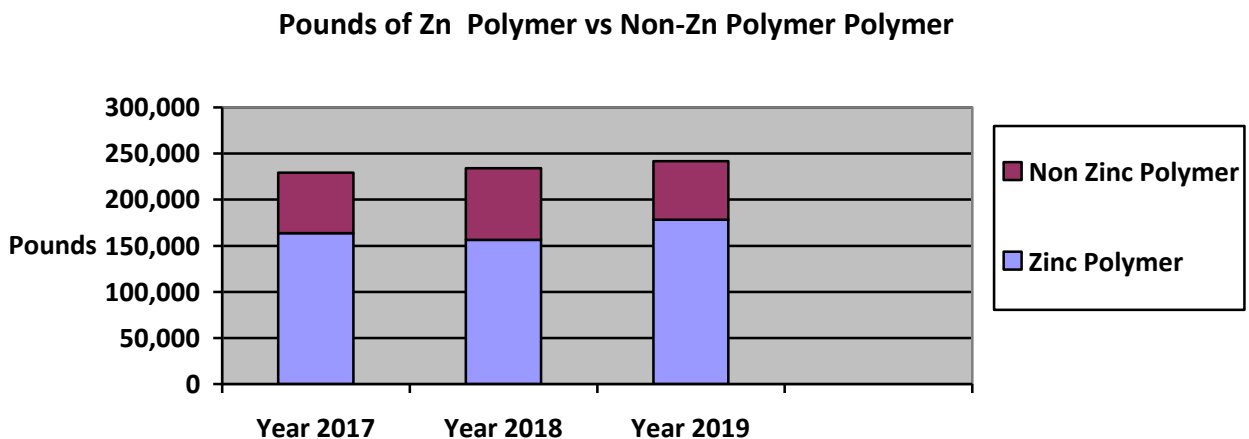
Historically, this company has made many investigations in the use of glycol ethers as coalescing agents. There are many glycol ethers of the ethylene and propylene variety. These glycol ethers are used singularly or in combination. The most desirable features of glycol ethers, apart from their coalescing ability, are its prevention of greying or cloudiness while the finish is drying under conditions of high humidity. We have observed that it is not always possible to use the same glycol ether(s) blends when the polymer is from different sources. Considerable effort has been made to coordinate the correct glycol ether blends to avoid possible greying of the finishes.

The combination of glycol ethers that work to prevent hazing in our premium finish does not work well with our other floor finishes or in our non-zinc finishes that are based upon different polymers. Various finishes use TURA 1022 glycol ethers in different blend ratios. The reformulation of floor finishes is an extremely difficult project as often only the most adverse atmospheric conditions will develop deficiencies in the candidate formulations. Our investigation of a suitable propylene glycol ether(s) substitute(s) has not given us an indication of a candidate finish that will be haze-free in the weather conditions that occur in New England Summers.

Over the last two years, we have evaluated polymers from Arkemia, Interpolymer Corporation, Omnova Solutions, Dow Inc., Essential Polymers, BASF, Tri-K and others.

The volume of manufacturing of zinc-free floor finish increased 9 % over the last two years while zinc-based finishes decreased 11% over the same period.

Zinc- free finishes can be self-cross-linked, calcium cross-linked and/or potassium cross-linked. The desired durability properties are not on the same level as zinc cross-linked floor finishes but is gaining acceptance for their decreased environmental impact. Having less long-term durability, the zinc-free finishes require more labor to retain their look. The result is increased maintenance costs compared to zinc-based floor finishes. Presently zinc-free floor finishes account for 26% of our floor finish market. In 2018 it was at a high of 27% of our floor finishes produced. The market share is due largely to environmentally preferable policies of the local municipalities, schools, university, and state. A rise in green conscious schools and communities in Massachusetts is also aiding its sale. The introduction of a durable zinc-based finish has increased our sales of zinc based floor finishes.



Option: Floor Finish Strippers

The floor finish stripper made at this company has the highest volume of ethylene glycol butyl ether (EB) of any of our products. This glycol ether is a hazardous material. However, EB has the greatest efficiency in removing multiple layers of floor finish when compared to all other available glycol ethers, except for DPnB. EB is one third to one half the expense of other glycol ethers and it is the most water soluble. The last two years have even had a lower cost for EB. The lack of water solubility of DPnB and bio-esters limits their use in floor strippers.

Few people hesitate to use the EB stripper given their choice. Low odor and environmentally preferred strippers are increasing in use. Previous attempts to reduce the amount of EB in our most popular stripper resulted in a few complaints that required us to restore the original amount of EB. Educating the consumer is still one of the toughest hurdles as it requires changes in methodology, application, and dwell times.

Higher concentration cleaners and strippers to be used in closed system dispensing units are still being requested by customers. This has a positive look in that this will result in appropriate use levels of chemicals and decrease the "over-use" of chemicals. The acceptance and demand for concentrates in dilution systems is strong and continuing.

This company predicts that any decrease in the use of glycol ethers TURA 1022 will be a result of floor preparation techniques, use of non-hazardous strippers and concentrates. We expect to see an increase in glycol ether 1022 for the year 2020 due to increased sales. New solvents and degreasing surfactant systems are being developed which may aid in the reduction of EB, but evaluations are time consuming, and pricing of the new solvents is usually not economically favorable for customers. Most new solvents or surfactants are introduced in the 1.50 to 2.10 range while EB is at a low of 0.68/ lb.

M.D. Stetson Company, Incorporated

2013 TUR Supportive Data

EB* Emissions from unloading tankers	5.2 lbs
EB* Emissions from breathing tankers	18.8 lbs
EB* Emissions from working tankers	32.0 lbs
EB* Emissions from work in progress	73.0 lbs

*Glycol Ether 1022 (Ethylene glycol monobutyl ether,)

NOTE: GLYCOL ETHER DM, GLYCOL ETHER DB AND GLYCOL ETHER DE IS RECEIVED IN DRUMS, EMISSIONS FROM DRUM HANDLING IS 0.2% ESTIMATED.

Ecologo, Green Seal and Massachusetts Approved Green Products

This company has approval for a number of custodial products by both the Commonwealth of Massachusetts, Green Seal and Ecologo. These products include hard surface cleaners, glass cleaners, floor finishes, floor strippers and others for a total of 23 products.

2020 TUR Supportive Data

Glycol Ethers by Product

YEARS	LBS of 1022 Glycol Ethers	Unaccounted LBS
1995	143323	562
1996	143323	564
1997	126788	496
1998	113742	406
1999	101767	359
2000	105572	372
2001	111271	392
2002	127166	446
2003	135599	376
2004	90642	318
2005	94743	322
2006	91125	319
2007	119470	406
2008	125000	438
2009	70179	223
2010	74578	236
2011	57434	244
2012	59548	467
2013	75403	129
2014	78800	486
2015	65996	1179 ¹
2016	63598	531 ²
2017	71921	472
2018	62192	48
2019	72344	364
2020	74623	174

Estimated Use of 1022 Glycol Ethers

2021 76,500 lbs.

2022 78800 lbs

*TURA 1022 is the combined total of ethylene glycol butyl ether, diethylene glycol monoethyl ether low gravity and diethylene glycol butyl ether.

** A study conducted by Rizzo Associates in 2004 indicated that the actual total VOC emission from all sources at this facility was 0.2 tons per year. This VOC level closely approximates the level estimated for the years 1991-2004

¹ Existing meter had variations of up to 10% at times. New meter was purchased.

² In 2016 due to problems with meters this number is overstated. DE-LG has a two drum error that is being reviewed.