The Benefits of a Good Environmental, Health and Safety Program for the Printing Industry

Graph Expo 2016

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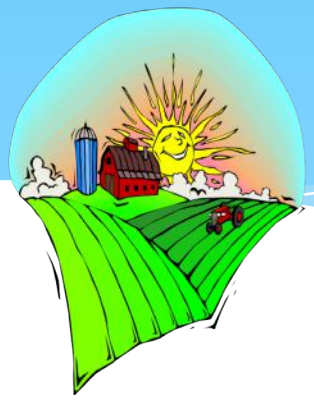


Howdy from Texas!

It’s great to be in Orlando to share our story.

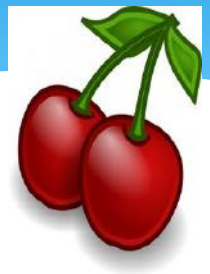
Vision from Top Management

The most important component of running a successful Environmental, Health and Safety (EH&S) program is that **YOU have to believe** and want it to be so. All employees who participate need to share the same vision as [illegible] They need to know wh[illegible] ate goals are. They nee[illegible] it.

Introduction

M[redacted]ement w[redacted]orning News (DMN) began a long time ago… long before cell phones, e-mail and internet. I think it was in the early 1990s. Long about the turn of this century (2000), DMN asked if we could get out of hazardous waste

Look for Low Hanging Fruit



1. Reduce hazardous waste generation to below 220 lb./month;
2. Eliminate the need for a Title V Air Permit;
3. Use safer chemicals for employees;
4. Recycle as many materials as possible.

Waste

In the late 1990s the Dallas Morning News generated a tremendous amount of hazardous waste. Most of it was from press cleaners that were composed primarily of volatile organic compounds (VOCs)... mineral spirits.

Hazardous Waste Quantity

DMN generated 235.62 tons of hazardous waste in 1999. So, as you can imagine, my eyes got big when DMN asked us to get them out of the hazardous waste business. That's over 1,300 drums in a year.

Old 1999 Waste Streams

Some of the waste streams included:

1. Spent press cleaners (blanket wash, rail cleaners) (Hazardous);
2. Oily rags (Hazardous);
3. Waste inks (Hazardous);
4. Batteries (Universal Waste);
5. Used Oil (Recyclable);
6. Aluminum plates (Recyclable).

Forming a Team

We formed a team made mostly of press room personnel and we began a search for a new press cleaner. The new press cleaner would need to meet certain criteria:

- It needed to work;
- Must have low VOCs; and
- Have a flash point of >140°

It took 18 months to find a product that met these criteria, but we did it!

Wise Words

Someone very wise told me that, “if something is just too good to be true, it’s probably n ”

Flashpoint

* I remember getting a very excited call from the press room that they had found it! I said what? We found a low VOC, high flashpoint solvent that cut through old ink like a hot knife through butter. I said, oh really. They said yes, please come over and look at it.
* Looked at the MSDS and, sure e it said the flash point was >200°
* Now **that's just too good to be true**……..

Flashpoint

* We collected a sample and had the lab analyzed it for flashpoint using an EPA closed cup method (1010A or 1020B);
* Results 105°F.
* Now what?
* The press room had already taken delivery of 6 totes.

Good ‘ole Fred the Chemist

* I called the manufacturer and spoke to a guy, supposedly a chemist, named Fred;
* I asked him how he came up with the flashpoint of >200°F?
* He said that it was an estimated value based on the chemical properties of the ingredients…. Hmmmm;
* He basically just guessed!
* OMG!

My Point

* Don't always believe what is written on the MSDS or product specifications sheet;
* Just because it's in writing doesn't mean that it is true;
* Don't believe everything you are told; and
* Analyze the product for VOC content and Flashpoint first before purchasing a large quantity.

Back to the Drawing Board

* We finally found a water-based cleaner that met the criteria. And we continue to use a similar product to this day. So, how do we make sure that we don't allow a high VOC and low flashpoint press cleaner into the facility?
* You've got to have a system in place that won't allow unwanted chemicals in.

Make and Enforce Rules

* This from top management: “Under no circumstances are any chemical based products to be brought onto a campus or implemented for use until all of these steps are completed. This absolutely does include any and all testing of products as well as permanent implementation. This includes products that are intended for use, and by their use, incur a change of state i.e. Paint and sealants. “

The Rules

* Before any chemical arrives on site the MSDS for that chemical must be obtained. The "Evaluation of Potential New Chemical" form must be completed by the requestor and attached to the MSDS.
* Both the MSDS and completed evaluation form are to be delivered to Press Management electronically via e-mail.
* The MSDS along with the evaluation form will be submitted to Engineering for evaluation and approval. Expected approval or denial should be within 12-24 hours by Engineering, unless otherwise noted by them.
* The requestor will be copied and made aware of the submission to Engineering.
* Upon approval, whether for testing or perpetual use, the approving documentation from Shiels with the MSDS will be returned to the requestor and the department head, along with a relative e-mail to the same individuals.
* Additionally, the Risk Management department should receive the same notification e-mail of approval and request that the MSDS be added to the on-line version of documentation.
* The department can then add the MSDS to their book and file the documentation of approval accordingly.
* Any recommendations for use or Personal Protective Equipment will be adhered to as recommended by Shiels Engineering.
* If/when approved, the chemical can be received on site.
* This process will be the same for any and all products whether it be for sample or perpetual use.

EVALUATION OF POTENTIAL NEW CHEMICALS
DALLAS MORNING NEWS
Plano, Texas
Product Name

EVALUATION DATE: _____ SE Quick Grade: _____

The SE Quick grade is a quick reference based on the risk evaluation from page 2 below (Low, Medium or High).

HMIS or NFPA 0 0 0

*Proposed Use of product: _____ *Department: _____

Check the one that applies:

❒ One time DMN use ❒ New chemical and part of DMN inventory

❒ Not purchased by DMN and is owned by contractor for facility maintenance

*Replacement: _____ *Name of Replacement Product: _____

NAME OF PRODUCT: _____

Formulation number: _____

MANUFACTURER OF PRODUCT (Name & Address) _____
_____
_____

* Anticipated Usage of Product (gal./yr. or lbs./yr.) _____

*** Denotes necessary information by The Dallas Morning News needed to complete this evaluation**

WASTE EVALUATION:

_____
_____
_____

By: ___

HEALTH and SAFETY EVALUATION:

_____
_____
_____

By: ___

AIR EMISSIONS EVALUATION:

_____
_____
_____

By: ___

EVALUATION OF POTENTIAL NEW CHEMICALS
DALLAS MORNING NEWS
Plano, Texas
Product Name

RISK WITH REGARD TO WASTE GENERATION:

	LOW		MEDIUM		HIGH		UNDISCLOSED

Low Risk – A product gets a low risk rating if it could never be a hazardous waste or is a Universal Waste.
Medium Risk – A product gets a medium risk if it could be classified as a hazardous waste but is in such low quantities (less than 25 gallons) that it would not cause DMN to become a small quantity generator.
High Risk – A product in the high risk category could be classified as a hazardous waste and is in such high quantities that it would change DMN's generator status.
Undisclosed – An Undisclosed rating means all relevant information about the chemical was not furnished and no determination can be made at this time.

RISK WITH REGARD TO HEALTH & SAFETY:

	LOW		MEDIUM		HIGH		UNDISCLOSED

Low Risk – A product gets a low risk rating for health and safety if it's NFPA rating in all categories is low (0 or 1), there are limited quantities of the material, and the employee needs minimal personal protective equipment (PPE).
Medium Risk – A product gets a medium risk rating for health and safety if it's NFPA rating is 2 or higher but the quantities are small (less than 25 gallons).
High Risk – A product in the high risk category is one that has an NFPA rating of 2 or more in any category, is in high quantities (>25 gallons) and requires extensive PPE (respiratory protection etc…).
Undisclosed – An Undisclosed rating means all relevant information about the chemical was not furnished and no determination can be made at this time.

RISK WITH REGARD TO AIR EMMISSIONS

	LOW		MEDIUM		HIGH		UNDISCLOSED

Low Risk – A product gets a low risk rating for air emissions if it has very low or no volatile organic compounds (VOCs) and will not change DMN's air permit status.
Medium Risk – A product gets a medium risk rating for air if it has a moderate concentration of VOCs (>10%) but is in such low quantities that it will not change DMN's air emissions or permit status (quantities are less than 25 gallons).
High Risk – A product in the high risk category is one that has high percentages of VOCs, ozone depleting compounds, and would compromise DMN's air permit status because of the quantities (in most cases > 100 gallons).
Undisclosed – An Undisclosed rating means all relevant information about the chemical was not furnished and no determination can be made at this time.

OVERALL EVALUATION:

	LOW		MEDIUM		HIGH		UNDISCLOSED

Low Risk – if you have a combination of all lows, or one medium and two lows
Medium risk – if you have two mediums and one low, all mediums, or one high and two mediums, or one high and two lows.
High risk – if you have two highs and one low, all highs or if one category rating will disqualify this product for use.
Undisclosed – An Undisclosed rating means all relevant information about the chemical was not furnished and no determination can be made at this time.

EVALUATION OF POTENTIAL NEW CHEMICALS
DALLAS MORNING NEWS
Plano, Texas
Product Name

Evaluation Summary

_____
_____
_____
_____
_____

Product Introduction Notification

DMN has conducted the recommended laboratory analysis and usage trial and advises the following:

	DMN plans to introduce this chemical into production usage on ___/___/___at a usage rate of _____ gallons per year.

	DMN has elected not to introduce this chemical into production usage. DMN will continue to evaluate other chemicals.

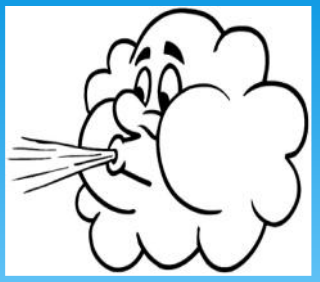
DMN Approval by:

Name_____ Date:_____

Translating to Dollars

* Switching to a water-based press cleaner allowed us to achieve our goal of becoming a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste. The facility went from generating over 235 tons per year (tpy) to less than 1 tpy (actually less than 200 pounds). That's a 235% reduction if my math is right;
* A savings of over $250,000 in waste disposal alone.
* Last year the total water-based press cleaning solvent disposal = $3,600.00.

Air



* The original air permit back in 1999 allowed just over 35 tpy of VOCs to be emitted into the air. This caused the facility to have to maintain a Title V air permit. Title V air permits are costly to maintain with much on-going maintenance and efforts to keep daily records by personnel.

* Switching to a water-based press cleaner from high VOC solvents reduced air emissions from 35 tpy to somewhere around 5 tpy. There was no need for a Title

Translated to Dollars in Air Savings

* To obtain and maintain a Title V air permit costs approximately $35,000 - $50,000/year because of maintenance, testing, record keeping and reporting.

* A PBR costs approximately $5,000/year in record keeping and chemical evaluations/testing to be sure that we don't blow the PBR.

Total Dollars

* With the reduction in personnel training, the savings in the waste and air realms easily exceeds $300,000;
* All low hanging fruit and achievable with today's technology;
* These savings are essential in a competitive market when circulatio shrinking;
* You really can't afford not to take these steps.

Health & Safety

* By using a low VOC water-based solvent to clean the presses, DMN was able to provide a much safer working environment for employees. Personal protective equipment (PPE) was limited to basic dermal protection with very little need for respiratory protection. Flammable liquids were essentially eliminated from being used at the facility.

Closing Notes

* DMN's Pollution Minimization Initiative was a voluntary effort which required many years of product research, testing, and analysis to achieve the goal of reducing site-wide air and waste pollution.
* DMN has laid the groundwork to identify the products and methods which are effective in maintaining product standards while achieving significant reductions of air and hazardous waste pollutants.
* The results of this effort by so many folks at DMN are applicable to other newspaper printing facilities across the globe and serve as an example of how productivity concerns can be balanced with

Questions