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STATE OF ILLINO IS Pollution Control Board

# ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	) .	
•	• )	
PETITION OF SCA TISSUE NORTH	)	AS 05-04
AMERICA, L.L.C., FOR AN ADJUSTED	)	(Adjusted Standard – Air)
STANDARD FROM : 35 III. Adm. Code	)	
218.301 and 218.302(c)	)	•

Prefiled Written Responses to
Questions for SCA Tissue North America, L.L.C.
Pertaining to the Petition

In Compliance with April 28, 2005 Order

McNAMEE, LOCHNER, TITUS & WILLIAMS, P.C. John J. Privitera, Esq.

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Telephone: (518) 447-3200

DATED:

May 12, 2005

Albany, New York

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Martin J. Stromberger, P.E., hereby affirms the truth of the following prefiled testimony. My business address and professional qualifications are attached as Exhibit A. I am generally familiar with the Alsip Mill of SCA Tissue North America LLC ("SCA") and have provided technical support in the preparation of the pending Petition and the technical documents appended thereto. Because the April 28, 2005 questions generally relate to technical matters, I hereby provide these responses to the questions posed and will be available at the hearing on May 17, 2005.

## 35 IAC 104.406(d)

 Is the address on the FESOP in Pet. Exh. D (13101 South Pulaski Rd., Alsip, IL) the address of the tissue mill?

Yes.

2. Would you please identify the downwind area affected? Is it rural or urban?

The area east of the facility is urban and primarily industrial (e.g., Clark oil refinery, Robbins waste incinerator) with some residential.

3. Please indicate the number of employees at the tissue mill.

There are approximately 68 SCA employees at the mill.

4. The petition on Page 12 states, "SCA utilizes low-VOC photochemically reactive solvents..." Pet. Exh. B at 15 states that "The cleaning solvent has a VOC content of 50 percent." Please indicate what solvents are used to remove the stickies and provide Material Safety Data Sheets (MSDS) for each. Please provide a MSDS for the cleaning solvent to show the 50% by weight VOM content.

The MSDS is attached as Exhibit B.

5. Pet. at 15 mentions USEPA proposed NESHAP at pulp and paper mills. Do the VOM emissions from SCA's cleaning operations include HAPs? If so, would you please identify what the HAPs are and what percentage they comprise of the VOMs?

The list of HAPs is attached as Exhibit C and the cleaning solvent contains 0 percent of these compounds.

6. Please describe how the solvents are stored when not in use. Are solvent storage containers vented? If so, could you please indicate the rate of emissions from the storage containers?

The solvent is delivered in bulk to an outside storage tank. This solvent storage tank is vented, however, the vent gases pass through a charcoal filter prior to release to atmosphere. Based on USEPA calculation methods and the maximum expected solvent usage rate at the facility, potential VOM emissions from the tank are estimated to be on the order of 10 pounds per year, not considering the control provided by the charcoal filter. Considering the filter, actual VOM emissions are negligible, less than 1 pound per year.

7. How is the solvent application equipment cleaned after use?

External cleaning is limited to paper machine washups or other housekeeping measures. No internal cleaning or maintenance of the nozzles is required except during nozzle changeouts as required when the spray pattern is determined to be less than optimal.

8. How is overspray from the cleaning process handled? Is overspray captured in a drip pan, or does it just evaporate? What percentage of solvent used is overspray and what percentage actually contacts the wire and/or stickies during the soaking stage?

Overspray is wasted cleaning product, so the spray system is designed to minimize overspray. The exact percentage of overspray has never been measured. Virtually all of the solvent spray contacts the extremely fine mesh multi-layered wire during the soaking stage.

Solvent does drip from the wire during the cleaning process. In addition, after soaking, high pressure water sprays are used to dislodge stickies from the wire. This solvent and water mixture falls into the catchall or saveall pans beneath the paper machine and is routed through the water treatment system on the paper machine.

9. Pet. Exh. H states that the wire solvent cleaning process "emitted fewer than 4 pounds per hour of volatile organic compounds on a rolling monthly average in 2002..." Please indicate the quantity (pounds) used during a single cleaning cycle, the duration of a cleaning cycle, and the frequency of cleaning cycles. Pet. Exh. B at 12 states that "wire cleaning is required once to twice per month but can be required more frequently....and felt cleaning is very infrequent." Exh. H "Solvent Trial Results" states that the removal of stickies emitted fewer than 4 lb/hr of VOCs on a rolling monthly average in 2002. Please indicate the rate of VOMs used on a strict hourly basis, during the actual cleaning operation. Please compare this result to the 8 lb/hr limit of 302.201.

During the last reporting year, SCA had fewer than 100 applications of wire cleaning solvent. Based on information from 1995 presented in the Title V permit application for the facility, the facility applied approximately 267 pounds of solvent per cleaning cycle. The actual solvent application requires approximately 15 minutes; however, the entire cleaning cycle requires a little over an hour.

Therefore, VOM emissions have historically been as high as 133 pounds per hour (as the solvent is 50% VOM) during a cleaning cycle, which is substantially greater than the 8 pound per hour limit of 302.201. The frequency of cleaning cycles depends entirely on the level of stickies present, the type of paper being produced, and many other factors. Two cleaning cycles may have to be completed "back-to-back" or there may be weeks between cleaning cycles.

Based on 2004 throughput information, the typical amount of solvent applied was approximately 160 pounds per solvent cleaning cycle. The cleaning solvent application time is similar to that noted above from the Title V permit application. As a result, the VOM emissions during a cleaning cycle in 2004 were typically around 80 pounds per hour, which is substantially greater than the 8 pound per hour limit of 302,201.

# 35 IAC 104.406(e)

Pet. at 16 states, "SCA has also concluded that no cleaning alternatives are available that provide acceptable cleaning characteristics and can reduce VOM emissions below 8 pounds per hour or be nonphotochemically reactive." (Pet. at 16.) SCA states that it has implemented pollution prevention changes that have helped to reduce the number of solvent cleanings. Pet. at 22 states, "...stickies are a substantial barrier to producing the recycled tissue rolls and the solvent cleaning operations with low VOM materials and controls described herein are the only demonstrated technology for reducing and/or eliminating that problem."

10. Are you familiar with the use of low impact pulping to keep stickies large so that mechanical cleaning equipment (such as screens and dissolved air flotation) will operate more efficiently? Have you considered low impact pulping as part of a stickies control program?

Yes. Low impact pulping would not eliminate stickies. Low impact pulping would provide some reduction in stickies in a manner similar to the changes already implemented at the facility such that solvent usage on a yearly basis would be somewhat lower. Solvent usage on a yearly basis is already very low. However, because low impact pulping would not eliminate stickies, some solvent spraying would still be required. Because of the size of the paper machine wires, the amount of solvent used during a spray event would still be in excess of 8 pounds per hour.

11. Has SCA evaluated any chemical products to keep small stickies from agglomerating into larger more troublesome stickies?

Yes, the Buckman Labs Optimyze® is currently in use at the facility. See response to 15 below.

12. Pet. at 12 mentions the use of a pulp detacifier and wire polymer. Would you please describe the role these have in stickies control? Has SCA evaluated the use of cationic wire and felt passivation to keep stickies from accumulating on the felts or wires?

The pulp detacifier binds with the contaminants or "stickies" so that the "stickies" will not adhere to the wire. Use of the detacifier decreases the number of solvent cleanings by reducing the amount of "stickies" that collect on the wire. The wire polymer is a cationic polymer that is applied to the paper machine wires to coat the wires and minimize the tendency for stickies to adhere to the wires. Because of the low solvent application requirements for the felt, felt passivation has not been necessary at SCA.

13. Pet. Exh. 16 contains the results of the solvent trial tests. Would you please explain what is meant by "Stripped the wire, no effect on stickies."

The wire polymer was chemically removed from the wire, but the stickies were not removed.

14. Besides alternative cleaning solvents, did SCA consider other approaches for chemically controlling stickies? Please address approaches such as fixation of stickies to fiber in sheet formation, dispersing stickies using solvent and surfactant blends, polymeric stabilization, stabilized enzymes, or a combination of these? Besides the alternative solvent trial tests presented in Pet. Exh. H, have you evaluated any of these other approaches on a bench or pilot scale?

Yes. SCA has evaluated numerous procedural, raw material, and equipment changes over the past 15 years to reduce VOM emissions associated with stickies control. Testing associated with these changes has almost always been conducted on the paper machine because bench and pilot scale evaluations have not been able to effectively simulate real machine conditions.

All of the approaches enumerated have been evaluated for implementation. Some of the approaches are being utilized (see response to Questions 11, 12, and 15, for example). Only Optimyze® and wire polymer additives have been demonstrated to be significantly effective.

15. Is SCA familiar with a new enzyme process given the USEPA's Presidential Green Chemistry Challenge Award (2004 Alternative Solvents/Reaction Conditions Award) known as Optimyze® and manufactured by Buckman Laboratoties?

Yes, this product is currently used in SCA's paper manufacturing operation.

16. Were any representatives for manufacturers of stickies control products contacted and invited to SCA's facility for guidance on a stickies control strategy and product selection or otherwise closely involved in the trial tests?

Yes. Several manufacturing representatives have been actively involved in the selection and application of stickies control products.

17. Please describe how is the felt cleaned. Are the same solvents used to clean the felt and wires? Would you please indicate how much solvent is used to clean the felt and how often?

The felt is continuously cleaned and conditioned with heated water to provide optimum moisture removal from the sheet. High pressure showers and low pressure flooded nip showers are the primary vehicles for the felt cleaning system. If this equipment is not sufficiently effective at cleaning the felt, an alkaline cleaning solution is applied. The paper machine was designed to allow for solvent application to clean the felt, but cleaning solvent is not currently applied to the paper machine felt.

## 35 IAC 104.406(f)

18. Would you please discuss the corresponding costs for the process and operational changes that SCA has implemented to achieve the 93% reduction in VOM emissions?

No cumulative cost has been assigned to this ongoing effort to reduce VOM emissions. The work has spanned 15 years, including three owners of the mill and hundreds of equipment and operational initiatives.

# 35 IAC 104.406(g)

19. How much did SCA spend to redesign and change equipment and cleaning operations to reduce VOM emissions from 182 tpy to 10 tpy?

See response to Question 18 above.

20. Exh. B, App, E, Page 1 of each of the Control Costs Results Summaries, indicates that costs are based on maximum annual production of 90,000 ADTP per year. The FESOP in Pet. Exh. A on Page 4 defines ADT as air-dried ton of finished paper. Please describe how ADTP relates to Machine Dried Tons (MDT) and if there is a conversion for ADTP to MDT.

ADT and MDT are essentially the same.

21. Pet. at 3 indicates the current production rate is 200 tons per day of product. Would you please clarify if this air dried tons (ADT) or machine dried tons (MDT)?

ADT and MDT are essentially the same.

22. The petition at 13 indicates that current production rates approximately doubled from the 1990 rate of 36,900 MDT/year which would be  $\approx$  73,800 MDT/year. On Page 14, the petition states that the VOM emission rate for the 1997-2000 timeframe averaged 0.6 lb VOM/MDT for the solvent cleaning operations. Multiplying (36,900 MDT x 2) x 0.6 lb VOM/MDT yields 22 tons/year. However, Exh. B at 15 indicates the total maximum VOM emissions from solvent cleaning operations are 10 tpy, and the actual rate is closer to 7 tons per year. Would you please clarify how the emission rate of 0.6 lb VOM/MDT and the current production rate of 200 tons per day yield the VOM emissions of 7 to 10 tons per year.

The emission rate of 0.6 lb VOM/MDT and the production rate of 200 tons per day do not correlate to a VOM emission rate of 7 to 10 tons per year. The information from Exh. B at 15 documenting maximum VOM emissions from solvent cleaning operations as 10 tpy and actual VOM emissions from solvent cleaning as closer to 7 tons per year is reflective of operations during the year 1999. Georgia-Pacific Corporation, the previous owner of the facility interpreted solvent usage trends for 1999 as typical and stated that maximum solvent cleaning VOM emissions were 10 tons per year. In 2001, Georgia-Pacific Corporation submitted documentation to the IEPA stating that they believed 1999 emissions were inordinately low and that maximum solvent cleaning VOM emissions would likely be more on the order of 25 tons per year.

- 23. Could you describe how other tissue paper mills using recycled stock handle stickies control? Similar machines producing similar grades of paper at other SCA facilities are using similar approaches to handle stickies control for recycled stock.
- 24. Pet. at 20 states, "....there will be no adverse incremental impact on the environment as a result of the Adjusted Standard..." The IEPA's recommendation concurs, stating, "the proposed adjusted standard will not impair compliance with the applicable ozone standards..." (Rec. at 15). In a previous similar adjusted standard from 218.301, AS 04-1 for Crownline Boats, Inc., the petitioner provided an Ambient Air Quality Impact Analysis to support its assertion that Crownline's impact on ambient air quality is insignificant. (AS 04-1, App. 16). The instant petition does not provide an analysis to show no adverse incremental impact on ozone. Would you please provide an ozone impact analysis using an appropriate methodology such as the USEPA Method, "VOC/NOx Point Source Screening Tables" by Richard D. Scheffe, September 1988 (see attached).

The maximum permitted VOM emissions from the facility are 75 tons per year (tpy). Of this facility-wide emission level, approximately 25 tpy are associated with solvent cleaning VOM emissions. If it is conservatively assumed that compliance with the Subpart G requirements would result in the complete elimination of solvent cleaning VOM emissions, the incremental VOM emission increase for use in conjunction with the "VOC/NOx Point Source Screening Tables" (Scheffe Table) would be approximately 25 tpy. This may certainly be an overstatement of the VOM emission reductions that would be achieved by Subpart G. No NOx emissions are associated with the solvent cleaning operations.

The Scheffe Table (Table 1 of the document) does not address VOM emissions as low as 25 tpy. The lowest entry in the table is 50 tpy. For a VOM to  $NO_x$  ratio of greater than 20, as appropriate for the solvent cleaning emissions, the estimated increment in ozone concentration is 0.004 parts per million (ppm). To determine the equivalent ozone concentration increment for a 25 tpy VOM emission rate, we multiplied the ozone concentration increment associated with a 50 tpy VOM emission rate (0.004 ppm) by the ratio of emission rates (25 tpy/50 tpy) to generate an ozone concentration increment of 0.002 ppm associated with the solvent cleaning operation.

Based on the Scheffe Table, 0.002 ppm would be the maximum increase in ozone concentration associated with the proposed adjusted standard. The eight-hour ozone standard is 0.08 ppm. Thus, the maximum increase in ozone concentration would be 2.5 percent of the applicable standard. Because compliance with Subpart G would not completely eliminate solvent cleaning VOM emissions at the facility, the actual increase in ozone would be less than this value.

25. If SCA were to experience a growth in production, could you please comment on how such growth would affect the VOM emissions on an annual basis in comparison to the data provided for the 2000 production year? By estimating a larger figure to represent potential increased VOM emissions 5 to 10 years in the future, how would the ozone increment change?

The ozone increment calculated in Item 24 above is representative of the maximum expected cleaning solvent usage at the facility. Maximum VOM emissions from the facility are limited by permit. SCA does not anticipate that maximum emissions from the facility 5 to 10 years in the future will be greater than the maximum emissions reflected in Item 24 above.

Affirmed:

Martin J. Stromberger

Dated: May 12, 2005

# EXHIBIT A

# DIRECT TESTIMONY OF MARTIN J. STROMBERGER, P.E.

- Q. Please state your name, business affiliation and address.
- A. My name is Martin J. Stromberger. I am a Project Manager and Manager of Technical Operations in the Milwaukee Office at RMT, Inc. (RMT). My business address is 150 N. Patrick Boulevard, Suite 180, Brookfield, WI 53045-5854.

I have over 24 years of experience in air pollution regulatory compliance. As a Project Manager and Manager of Technical Operations, I provide guidance, direction, and oversight to project managers and technical staff for air permitting, compliance demonstration, and other environmental compliance projects for clients.

# Q. What is the business of RMT?

- A. RMT is an environmental and management consultant providing services to a wide range of businesses across the United States. Our services include regulatory permitting and compliance management, environmental planning and remediation, innovative technology applications, health and safety management, risk management, engineering design, and construction management.
- Q. Please describe your educational history.
- A. I have a B.S. degree in General Engineering from the University of Illinois –

  Urbana/Champaign (January 1981). I have a M.S. degree in Environmental Engineering from the University of Cincinnati (March 1985).

A.	I am a Professional Engineer licensed in Wisconsin and Massachusetts.	

What professional licenses or certifications do you hold?

Q.

**EXHIBIT B** 



# MATERIAL SAFETY DATA SHEET

Penetone® Corporation, 74 Hudson Ave., Tenafly, NJ 07570

PENSOLV® LOVO L115C

Page. 1 of 4

Date Prepared: February 22, 1995

MSDS No.: 4766-4080

# SECTION 1 PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

PRODUCT NAME: PENSOLV LOVO LI15C

GENERAL USE: Degreaser

PRODUCT DESCRIPTION: Solvent/solvent blend GENERIC INGREDIENTS: Proprietary blend

**EMERGENCY TELEPHONE NUMBERS:** 

PENETONE 201-587-3000

CHEMTREC 800-424-9300

## **SECTION 2 HAZARDOUS INGREDIENT SECTION**

This product is hazardous as defined in 29 CFR1910.1200.

OSHA HAZARD: COMBUSTIBLE

#### **OSHA HAZARDOUS INGREDIENTS**

CAS#

EXPOSURE LIMITS 8 hrs. TWA (ppm)

OSHA PEL ACGIH TLV

Supplier

Proprietary blend

500

100

## SECTION 3 HEALTH INFORMATION & PROTECTION

## **EMERGENCY OVERVIEW:**

Clear, light amber combustible liquid with fruity odor. Irritating to eyes, skin, and respiratory tract.

## POTENTIAL HEALTH EFFECTS:

## EYE CONTACT:

Slightly irritating but does not injure eye tissue. High vapor concentrations may be irritating.

## SKIN CONTACT:

Frequent or protonged contact may irritate or dry the skin or cause dematitis. Skin contact may aggravate an existing dermatitis condition.

#### INHALATION:

High vapor/aerosol concentrations (greater than the TLV) are irritating to the respiratory tract and may cause headaches, dizziness, anesthesia, drowslness, unconsciousness, and other central nervous system effects.

#### INGESTION:

Small amounts of this tiquid may be drawn into the lungs by either swallowing or vomiting. This may cause severe and delayed health effects such as inflammation of the lungs and infection of the bronchi. Ingestion may cause irritation of the digestive tract and diarrhea.

Page: 2 of 4

Date Prepared: February 22, 1995

MSDS No.: 4766-4080

#### CHRONIC:

This product contains a material which when ingested in large amounts has caused kidney and liver damage in laboratory animals.

#### FIRST AID MEASURES:

#### EYE CONTACT:

Flush eyes with large amounts of water. See physician immediately.

#### SKIN CONTACT:

Flush skin with large amounts of water. Use soap if available. Remove contaminated clothing and launder before reuse. If skin irritation develops or persists, consult physician.

#### INHALATION:

Remove person to fresh air. Administer oxygen or artificial respiration as needed. Call a physician immediately INGESTION:

If swallowed, DO NOT INDUCE VOMITING. Use a stomach pump. Call a physician immediately.

# WORKPLACE EXPOSURE CONTROLS:

#### PERSONAL PROTECTION:

Safety glasses are recommended for all workplace conditions. Solvent resistant gloves should be used. Other protective gear, including splash proof goggles or face shield, rubber boots, apron, gauntilets, or rain gear should be worn depending on how the product is used.

#### **VENTILATION:**

None needed under normal use conditions. For enclosed areas, or where large amounts of the product are being used, the use of fans or other mechanical ventilation is recommended. An organic vapor mask or a particle mask should be used if the product is sprayed. DO NOT MIST THIS PRODUCT. Use coarse spray only.

# **SECTION 4 FIRE & EXPLOSION HAZARDS**

FLASH POINT: 122°F TCC

FLAMMABLE LIMITS: not determined

**AUTOIGNITION TEMPERATURE:** not determined

## GENERAL HAZARD:

COMBUSTIBLE LIQUID. Can form combustible mixtures at or above the flash point. Containers can rupture and explode under fire conditions due to pressure and vapor buildup.

### FIRE FIGHTING:

Either allow fire to burn out under controlled conditions or extinguish with water, foam, or dry chemical. Cool exposed containers with water spray.

#### **HAZARDOUS COMBUSTION PRODUCTS:**

Smoke, furnes, and oxides of carbon

#### SECTION 5 SPILL CONTROL MEASURES

# LAND SPILL:

Eliminate sources of ignition. For small spills, use absorbent material such as towels or absorbent powders. Put all material into proper waste disposal container with lid tightly covered. Solvent soaked materials may spontaneously combust. For larger spills, dike spill, recover free liquid, and use absorbent material to dry area. Put all material into appropriate waste containers.

## WATER SPILL:

Remove product from water surface by skimming or with suitable absorbents. If allowed by local environmental regulatory agencies, you may use a suitable dispersant.

Page: 3 of 4

Date Prepared: February 22, 1995

MSDS No.: 4766-4080

# **SECTION 6 HANDLING & STORAGE**

STORAGE TEMPERATURE, °F: ambient. DO NOT STORE ABOVE 120 Deg. F.

GENERAL: Keep away from heat sources, open flames, and other ignition sources. Do not store near strong exidents.

# SECTION 7 TYPICAL PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT, °F:

greater than 300

**EVAPORATION RATE, Acetone = 1:** 

less than 0.05

SOLUBILITY IN WATER:

forms weak emulsion

SPECIFIC GRAVITY at 75°F:

0.829

**ODOR AND APPEARANCE:** 

clear light amber liquid with fruity odor

VAPOR PRESSURE, mm Hg at 20°C:

less than 2

VAPOR DENSITY (Air = 1):

greater than 1

WT% ORGANIC VOLATILES:

50

pH:

not applicable

## **SECTION 8 REACTIVITY DATA**

#### GENERAL:

This product is stable and hazardous polymerization will not occur.

## INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents.

# SECTION 9 REGULATORY INFORMATION

# DEPARTMENT OF TRANSPORTATION (DOT):

PROPER SHIPPING NAME:

COMBUSTIBLE LIQUID, N.O.S contains petroleum hydrocarbons

HAZARD CLASS: COMBUSTIBLE LIQUID

IDENTIFICATION NUMBER: not applicable PACKING GROUP: III

LABEL: not applicable for nonbulk

FLASH POINT: 122"F TCC

pH: not applicable

TSCA: The ingredients in this product are listed on the TSCA inventory.

# CERCLA:

This product contains no reportable CERCLA materials. We recommend you contact local authorities to determine if there may be other local reporting requirements.

#### RCRA HAZARD CLASS:

D001 Ignitable hazardous waste

## PENSOLV LOVO L115C

Page: 4 of 4 Date Prepared: February 22, 1995

MSDS No.: 4766-4080

#### SARA TITLE III:

311/312 HAZARD CATEGORIES:

Acute health, Fire

313 REPORTABLE INGREDIENTS:

None

#### CALIFORNIA PROPOSITION 65 INFORMATION:

This product does not contain any chemicals recognized by the state of California to cause cancer and/or birth defects or reproductive harm.

# SCAQMD INFORMATION:

is there a photochemically reactive material present? Yes What is the % by volume of photochemically reactive material? about 50 What is the VOC content? about 425 g/l What is the vapor pressure of VOC's? less than 2 mm Hy at 20°C

## **SECTION 10 NOTES**

#### HAZARD RATING SYSTEMS:

	HMIS	NFFA		KEY
HEALTH	1	• 1		4 = Severe
FLAMMABILITY	2	2		3 = Serious
REACTIVITY	Q	· O	•	2 = Moderate
				1 = Slight
				0 = Minimal

# **REVISION SUMMARY:**

Nane

## SUPERSEDES ISSUE DATE:

FOR ADDITIONAL PRODUCT INFORMATION, CONTACT YOUR SALES ENGINEER FOR ADDITIONAL HEALTH/SAFETY INFORMATION, CALL 201-367-2000

THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED TO DE DEPENDAGLE AND ACCURATE TO THE BEST UP PENETONES KNOWLEDGE. THE INFORMATION RELATES TO THIS SPECIFIC MATERIAL. If "MAY NOT BE VALID FOR THIS MATERIAL IF USED IN COMPINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY ONERFLE AS TO THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION FOR HIS OWN PARTICULAR USE.

# EXHIBIT C

# **EPA List of 188 Hazardous Air Pollutants**

CAS Number	Chemical Name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107°	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
	Benzene (including benzene from
71432	gasoline)
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate (DEHP)
542881	Bis(chloromethyl)ether
75252	Bromoform
106990	1,3-Butadiene
156627	Calcium cyanamide
	Caprolactam
105602	(See Modification)
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone

108907 510156 67663 107302 126998	Chlorobenzene Chlorobenzilate Chloroform Chloromethyl methyl ether Chloroprene Cresols/Cresylic acid (isomers and
1319773 95487 108394 106445 98828 94757 3547044 334883 132649	mixture) o-Cresol m-Cresol p-Cresol Cumene 2,4-D, salts and esters DDE Diazomethane Dibenzofurans
96128 84742 106467 91941	1,2-Dibromo-3-chloropropane Dibutylphthalate 1,4-Dichlorobenzene(p) 3,3-Dichlorobenzidene Dichloroethyl ether (Bis(2-
111444 542756 62737 111422	chloroethyl)ether) 1,3-Dichloropropene Dichlorvos Diethanolamine
121697 64675 119904 60117 119937 79447 68122 57147 131113 77781 534521 51285 121142	N,N-Diethyl aniline (N,N-Dimethylaniline) Diethyl sulfate 3,3-Dimethoxybenzidine Dimethyl aminoazobenzene 3,3'-Dimethyl benzidine Dimethyl carbamoyl chloride Dimethyl formamide 1,1-Dimethyl hydrazine Dimethyl phthalate Dimethyl sulfate 4,6-Dinitro-o-cresol, and salts 2,4-Dinitrotoluene
123911 122667 106898	1,4-Dioxane (1,4-Diethyleneoxide) 1,2-Diphenylhydrazine Epichlorohydrin (I-Chloro-2,3- epoxypropane)

106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichloroethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75242	Ethylidana diablavida (4.4 Diablavaathana)
75343 50000	Ethylidene dichloride (1,1-Dichloroethane)
76448	Formaldehyde Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
	Hydrogen sulfide
7783064	(See Modification)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (lodomethane)
108101	Methyl isobutyl ketone (Hexone)
	•

624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4¬-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
	Pentachloronitrobenzene
82688	(Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
	Propylene dichloride (1,2-
78875	Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride

108883 95807 584849 95534 8001352 120821 79005 79016 95954 88062 121448 1582098 540841 108054 593602 75014	Toluene 2,4-Toluene diamine 2,4-Toluene diisocyanate o-Toluidine Toxaphene (chlorinated camphene) 1,2,4-Trichlorobenzene 1,1,2-Trichloroethane Trichloroethylene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol Triethylamine Trifluralin 2,2,4-Trimethylpentane Vinyl acetate Vinyl bromide Vinyl chloride
75354 1330207 95476 108383 106423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Vinylidene chloride (1,1-Dichloroethylene) Xylenes (isomers and mixture) o-Xylenes m-Xylenes p-Xylenes Antimony Compounds Arsenic Compounds (inorganic including arsine) Beryllium Compounds Cadmium Compounds Chromium Compounds Chromium Compounds Cobalt Compounds Coke Oven Emissions Cyanide Compounds (Note 1) Glycol ethers (Note 2) Lead Compounds Manganese Compounds Mercury Compounds Fine mineral fibers (Note 3) Nickel Compounds Polycylic Organic Matter (Note 4)
0	Radionuclides (including radon) (Note 5) Selenium Compounds

NOTE: For all listings above which contain the word "compounds" and 1 X'CN where X = H' or any other group where a formal dissociation 2 Includes mono- and di- ethers of ethylene glycol, diethylene glycol,

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the (See Modification)

3 Includes mineral fiber emissions from facilities manufacturing or 4 Includes organic compounds with more than one benzene ring, and 5 A type of atom which spontaneously undergoes radioactive decay.



ATTORNEYS AT LAW

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STATE OF ILLINOIS Pollution Control Board

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May 12, 2005

# **VIA OVERNIGHT DELIVERY:**

Mr. Bradley P. Halloran Hearing Officer Illinois Pollution Control Board James R. Thompson Center, Suite 11-500 100 West Randolph Chicago, IL 60601

RE: Docket AS-05-04

SCA Tissue North America, LLC

Dear Mr. Halloran:

On behalf of SCA Tissue North America, LLC (SCA), attached are two copies of the requested responses to questions posed by the Illinois Pollution Control Board's technical personnel in regard to the petition of SCA Tissue North America, LLC for an adjusted standard from 35 Ill. Adm. Code 218.301 and 218.302(c).

The questions posed by the Illinois Pollution Control Board are listed on the attached submission, followed by SCA's response to the questions through consulting engineer, Martin J. Stromberger. Please note that three attachments accompany SCA's response to the questions.

Respectfully

John J. Privitera

JJP/klh Enc.

cc:

Clerk, IPCB

Robb Layman, Illinois Environmental Protection Agency