

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date:**

**Region:** Mooresville Regional Office  
**County:** Catawba  
**NC Facility ID:** 1800533  
**Inspector's Name:** Jim Westmoreland  
**Date of Last Inspection:** 08/22/2008  
**Compliance Code:** C/In Compliance With  
 Procedural Reqr

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> International Cushioning Company, LLC Hickory  <b>Facility Address:</b> International Cushioning Company, LLC Hickory 6005 North Carolina Highway 10 West Hickory, NC 28602  <b>SIC:</b> 3086 / Plastics Foam Products <b>NAICS:</b> 32615 / Urethane and Other Foam Product (except Polystyrene) Manufacturing  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> 250 TPY VOC <b>NC Toxics:</b> 2Q .0711 for styrene <b>112(r):</b> applicable, in compliance <b>Other:</b> Removal of 2D .0521
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 1800533.05B <b>Date Received:</b> 07/20/2005 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-1st Time <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 09489/R03 <b>Existing Permit Issue Date:</b> 06/26/2007 <b>Existing Permit Expiration Date:</b> 11/30/2009
Jim Buckalew Plant Manager  6005 North Carolina Hwy 10 West Hickory NC, 28602+7137	Buddy Bussey President (866) 311-9600 240 Boundary Lane Marlboro NJ, 07746	Jim Buckalew Plant Manager  6005 North Carolina Hwy 10 West Hickory NC, 28602+7137	
<b>Review Engineer:</b> Mike Benson  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____		<b>Comments / Recommendations:</b> Issue 09489/T04 <b>Permit Issue Date:</b> <b>Permit Expiration Date:</b>	

**I. Purpose of Application**

This permitting action is for a First-time Title V permit. The facility was originally issued a State-only Title V permit on August 12, 2005, and has undergone two permit revisions since the State-only Title V permit was issued.

**II. Facility Description**

This facility makes a hard resin that is used in other facilities to make expanded polystyrene foam (i.e. peanuts). It should be noted that the facility makes the precursor to the peanuts, a hard pellet, that when heated expands into foam packing material. The

facility does expand a very small percentage of its own EPS resin product but this is considered a minor process at the facility.

### **III. History/Background**

December 23, 2004 – Synthetic minor permit issued.

August 12, 2005 – Permit issued for modification to become Title V as well as addition of EPS storage as a permitted source.

November 10, 2005 – Permit issued for modification to add EPS resin expanders and change emission factor for existing polystyrene processor.

June 26, 2007 – Permit issued for modification to add additional polystyrene processor.

### **IV. Permit Modification/Changes**

This is a First-time Title V permit that replaces an existing State-only permit.

### **V. Regulatory Evaluation**

#### 15A NCAC 2Q .0317: Avoidance Conditions.

The facility is limited to 250 tons per year of VOC emissions. They must also keep monthly records demonstrating compliance as well as submit semi-annual reports to DAQ. The facility was specifically noted to be in compliance with this regulation during the past compliance inspection (107 TPY of VOC for calendar year 2007, and reports submitted in a timely manner).

The facility is considered to be in compliance with 2Q .0317.

#### 15A NCAC 2Q .0711: Emission Rates Requiring a Permit.

This facility has a TPERs stipulation in Permit No. 09489R03. The only regulated pollutant is styrene, with a limit of 2.7 pounds per hour. The facility emissions have been noted to be consistently less than half of this limit.

The facility was previously using a free styrene factor of 500 ppm, which was an average factor based on the MSDS sheets from the supplier. To more accurately demonstrate compliance with Toxics, the facility will now be using information provided on each shipment. This information is a railcar specific analytical analysis for the free styrene monomer. This is the most accurate information available.

The facility is considered to be in compliance with 2Q .0711.

15A NCAC 2Q .0508(g): Prevention of Accidental Releases – Section 112(r) of the Clean Air Act

The facility is subject to 112(r) for pentane. Full compliance with this regulation was determined August 22, 2008, when a 112(r) inspection was completed by Jim Westmorland of the Mooresville Regional Office.

Other Permit Considerations

It should be noted that previous permits included a 2D .0521 condition. Normally there is a correlation between particulate emissions/particulate loading in the exit gas stream and visible opacity emissions. The more particulate loading, the more visible opacity emissions. Occasionally, visible emissions occur when hydrocarbons condense rapidly at the exhaust stack, giving a blue haze effect. Although this hydrocarbon condensation is normally associated with the heavier hydrocarbons and high temperature (relative to the outside temperature) processes.

An exhaustive review of the records has shown that the facility has little, if any particulate matter emissions (some particulate matter emissions are listed on the emissions inventory but this is a result of the combustion of fossil fuel not the manufacturing processes). The facility does emit hydrocarbons, but styrene and pentane are lighter hydrocarbons, and are being emitted at ambient temperature, and at low concentrations. No previous facility inspection has shown anything but zero percent visible opacity emissions. Since there are no particulate emissions from the manufacturing processes, and no visible opacity emissions are expected, the 2D .0521 stipulation is removed from the permit. This is consistent with other DAQ permits where only VOCs are emitted from a manufacturing process.

A report entitled “EPS Resin Production Emission Factor Material Balance Calculations” was submitted on February 11, 2008. The purpose of this investigation was to accurately determine exact emissions factors for the EPS resin production. The factor was determined to be 0.0045 pounds VOC per pound of EPS resin produced. The assumptions and mass balance calculations offer an environmentally conservative (tends to slightly over estimate emissions) factor than the old factor of 0.0035 pounds VOC per pound of EPS resin produced. However, the new factor incorporates losses that are incurred while storing the product until it is shipped to the final customer. Since the emissions from storage are now incorporated into the production factor on a pounds per product produced method, the separate emission source “ESP storage”, ID No. ES-6 will be removed from the list of permitted items.

Process rates were removed from the equipment descriptions at the Company’s request. They indicated that including process rates unfairly affected the Company’s ability to compete in the market. Removal of the process rate descriptions does not effect compliance with any applicable Air Quality regulation. Therefore, process rates were

removed from the equipment descriptions. This is consistent with the Division's policy on listed process rates.

Insignificant activities IES-6 and IES-21 were removed from the list of permitted sources.

## **VI. Facility-wide Emissions Summary**

The emissions summary was obtained from the most recent emissions inventory submitted to the Division. Note that DAQ only requires actual emissions to be submitted.

<b>Pollutant</b>	<b>Expected Actual Emissions, TPY (after controls/limits)</b>
Particulate Matter	1.73
Particulate Matter (PM10)	0.65
Particulate Matter (PM2.5)	0.65
Sulfur Dioxide	0.42
Nitrogen Oxides	0.03
Carbon Monoxide	0.01
VOC	107.33
Lead	N/A

The highest expected HAP emissions is styrene, at 1.08 tons per year.

## **VII. NSPS, NESHAPS, PSD, Attainment Status, 112(r), CAM**

### **NSPS**

The facility is not affected by any NSPS.

### **NESHAP/MACT**

The facility is not subject to any MACT. The facility has requested to have a facility-wide MACT avoidance placed in the permit. This will limit the facility to 10 tons per year of any individual HAP or a total of 25 tons per year of all combined HAPs. The facility will be calculating HAP emissions with the free styrene factors explained above.

### **PSD/NSR/NAA**

Potential VOC emissions are greater than 250 TPY and the facility would be considered PSD major source needing NSR review if the facility did not request a 250 TPY limit for volatile organic compounds

Catawba County has been triggered for PSD increment tracking PM10. This application does not affect PSD increment tracking. Therefore, PSD increment tracking does not apply.

NAA does not apply.

**112(r)**

This facility is subject to Section 112(r) of the Clean Air Act. The facility passed a compliance inspection on August 22, 2008.

**Compliance Assurance Monitoring (CAM)**

This facility is not subject to CAM because there are no control devices.

**VIII. Facility Wide Air Toxics**

The facility is subject to 2Q .0711 for Styrene. The facility is considered to be in compliance.

**IX. Statement of Compliance**

This facility was most recently inspected by Bruce Ingle of the Mooresville Regional Office on April 4, 2008. The facility appeared to be in compliance with all applicable Air Quality Regulations at that time.

**X. Recommendations/Comments**

15A NCAC 2D .0540, Particulates From Fugitive Dust Emission Sources, was not included in accordance with Office policy (not included unless inspection or complaints indicate a problem) as it is included in the General Conditions.

MRO recommends issuance of Permit No. 09489T04

Issue Permit No. 09489T04.