

 <p>WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF AIR QUALITY 601 57th Street, SE Charleston, WV 25304 Phone: (304) 926-0475 www.dep.wv.gov/daq</p>	PERMIT DETERMINATION FORM (PDF)	
	FOR AGENCY USE ONLY: PLANT I.D. # _____ PDF # _____ PERMIT WRITER: _____	
1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE): <p style="text-align: center;">The Chemours Company FC, LLC</p>		
2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE): <p style="text-align: center;">Chemours Washington Works</p>		3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE: <p style="text-align: center;">325211</p>
4A. MAILING ADDRESS: Building 1 <u>Chemours Washington Works,</u> <u>Washington WV 26181-1217</u>		4B. PHYSICAL ADDRESS: 8480 DuPont Road <p style="text-align: center;">Washington WV 26181</p>
5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A): See Attachment A		
5B. NEAREST ROAD: <p style="text-align: center;">WV Route 892</p>	5C. NEAREST CITY OR TOWN: <p style="text-align: center;">Parkersburg</p>	5D. COUNTY: <p style="text-align: center;">Wood</p>
5E. UTM NORTHING (KM):	5F. UTM EASTING (KM):	5G. UTM ZONE: <p style="text-align: center;">14</p>
6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED: <p style="text-align: center;">John E. Sjostedt</p>		6B. TITLE: <p style="text-align: center;">Engineer</p>
6C. TELEPHONE: <p style="text-align: center;">304-863-4488</p>	6D. FAX: <p style="text-align: center;">304-863-4973</p>	6E. E-MAIL: <p style="text-align: center;">John.E.Sjostedt- 1@Chemours.com</p>
7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY): <p style="text-align: center;"><u> 107 - 00182 </u></p>	7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY): <p style="text-align: center;">R30-10700001-2010 (1 of 14)</p>	
7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST: No		
8A. TYPE OF EMISSION SOURCE (CHECK ONE): <input checked="" type="checkbox"/> NEW SOURCE <input type="checkbox"/> ADMINISTRATIVE UPDATE <input type="checkbox"/> MODIFICATION <input type="checkbox"/> OTHER (PLEASE EXPLAIN IN 11B)		8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN? <p style="text-align: center;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>
9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE: <p style="text-align: center;"><u>06/18/2016</u></p>	10B. DATE OF ANTICIPATED START-UP: <p style="text-align: center;"><u>06/18/2016</u></p>	
11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS ATTACHMENT B.		
11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.		
12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS ATTACHMENT D. FOR CHEMICAL PROCESSES, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.		

13A. REGULATED AIR POLLUTANT EMISSIONS:

⇒ FOR A NEW FACILITY, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ FOR AN EXISTING FACILITY, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM		
PM ₁₀		
VOCs	0.85	0.0253
CO		
NO _x		
SO ₂		
Pb		
HAPs (AGGREGATE AMOUNT)	0.85	0.0253
TAPs (INDIVIDUALLY)*		
OTHER (INDIVIDUALLY)*		

* ATTACH ADDITIONAL PAGES AS NEEDED

13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E.

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. CERTIFICATION OF DATA

I, Robert Fehrenbacher (TYPE NAME) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A **RESPONSIBLE OFFICIAL**** (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: Robert Fehrenbacher

TITLE: Plant Manager

DATE: June / 20 / 2016

** THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

ATTACHMENT A ATTACHMENT B ATTACHMENT C ATTACHMENT D ATTACHMENT E

RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

www.dep.wv.gov/daq

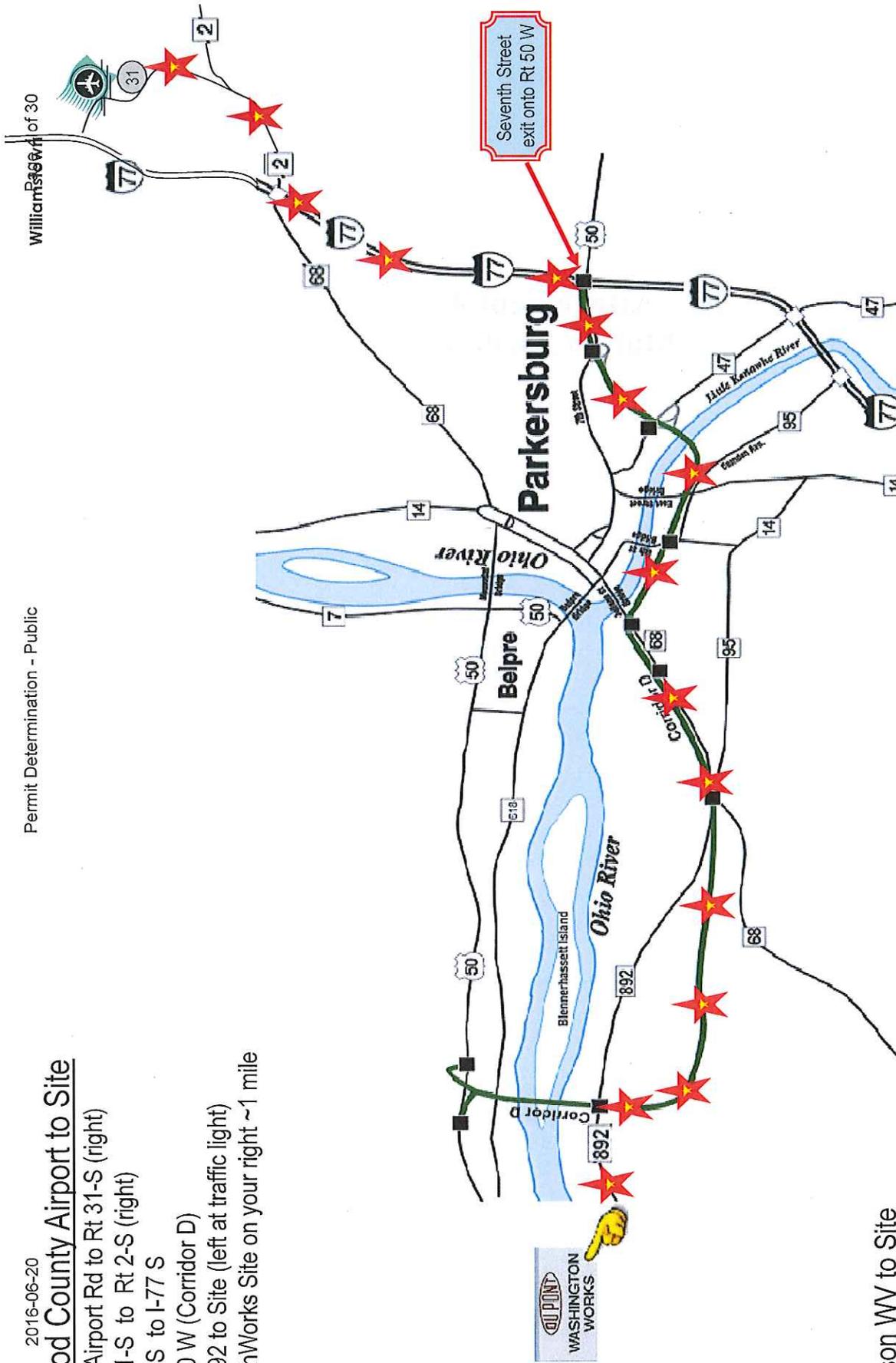
Attachment A
Map to Facilities

2016-06-20

Wood County Airport to Site

- Exit Airport Rd to Rt 31-S (right)
- Rt 31-S to Rt 2-S (right)
- Rt 2 S to I-77 S
- Rt 50 W (Corridor D)
- Rt 892 to Site (left at traffic light)
- WashWorks Site on your right ~1 mile

Permit Determination - Public



Charleston WV to Site

- I-77 north from Charleston
- Rt 50 W (Corridor D) take to Ohio
- Rt 892 to Site (left at traffic light)
- WashWorks Site on your right ~1 mile

Airport to Comfort Inn

- Exit Airport Rd to Rt 31-S (right)
- Rt 31-S to Rt 2-S (right)
- Rt 2 S to Rt 68 S (Emerson Avenue)
- Follow Rt 68 S to Rt 14 N
- Comfort Inn is on left (near Road Lobster)

Mineral Wells to Site

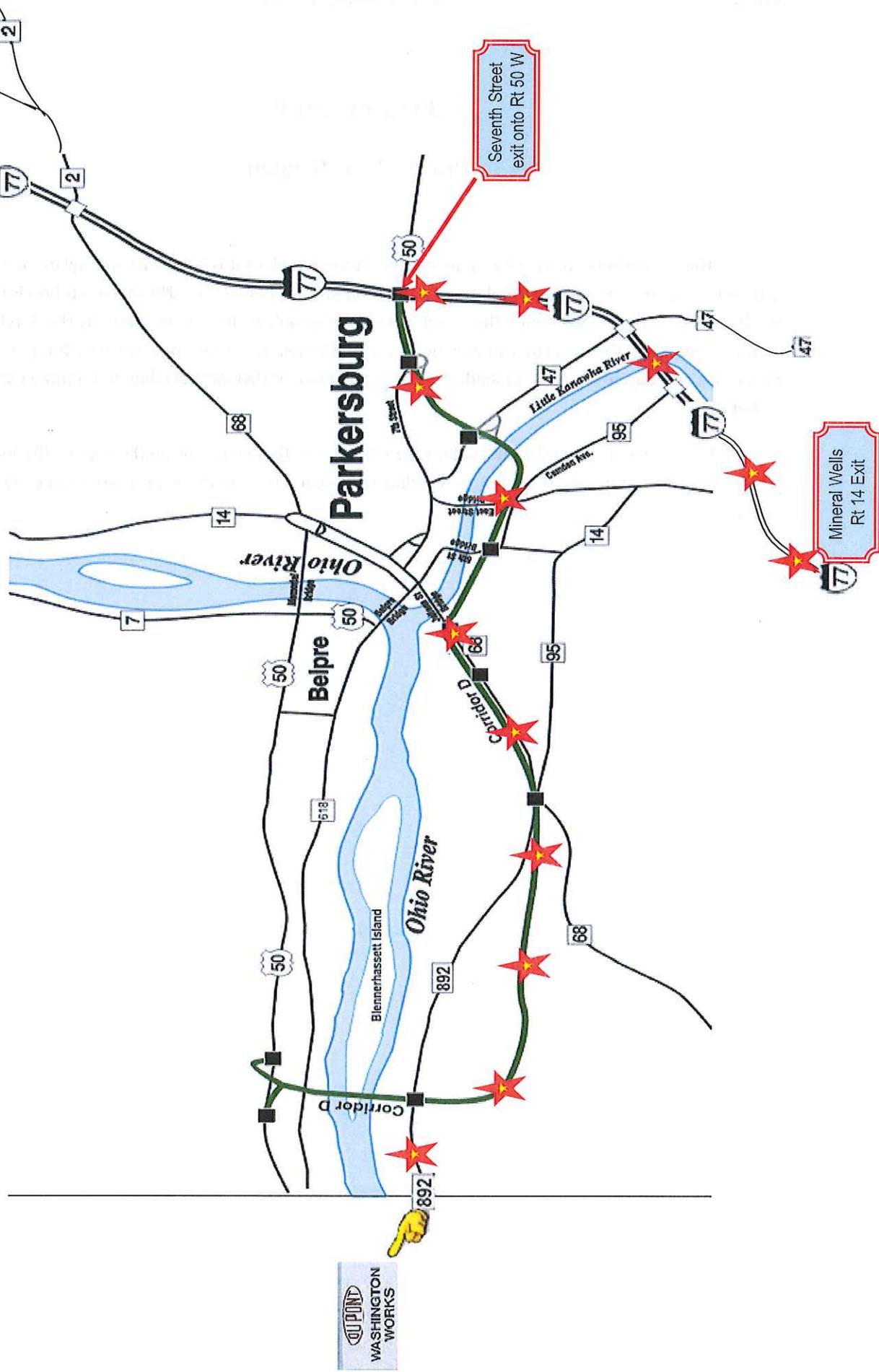
I77 N to Rt 50 W (Corridor D)

Rt 892 to Site (Left at traffic light)

WashWorks Site on your right ~1 mile

Permit Determination - Public

Page 5 of 30



Attachment B

Process Flow Diagram

This operation consists of a single existing storage tank that is filled with methyl methacrylate. This storage tank is refrigerated maintaining the temperature below 5°C. Normal operation is to unload fresh methyl methacrylate from either chemical trailers or railcars for consumption by the Acrylics process converting the monomer to polymer. The additional operation considered by this permit determination is to reverse the unloading process and load methyl methacrylate into empty chemical trailers.

Each trailer is painted white, submerged fill tube, with no controls on the vapor. The loading process is expected to take three hours. Loading will occur within a curbed area to contain any leaks or spills.



Attachment C
Detailed Process Description

General Overview

The Acrylic Resins process has two production lines, Line #1 and Line #2. The main raw materials for this polymerization process are acrylic monomers, acrylates and methacrylates received in truck wagons, railcars, 55-gallon drums, or small volumes. Other miscellaneous raw materials (water, initiators, chain transfer agents, additives) are received by direct piping connection, in totes, bags, or lever-packs. Pumps or transfer by pressure differential is used to move raw materials, semi-finished, and finished product through the process. Bulk monomers are stored in tanks filled by transfer pumps. These monomers are then either directly pumped into a batch weight-up tank or transferred into indoor storage tanks. For each polymerization batch a charge of monomers and additives are weighed up in a charge tank. The aqueous charge for each batch is weighed up in a separate vessel. Both the monomer and aqueous charges are then pressure transferred to the desired reaction vessel, referred to as a polykettle, through a common drop line.

Once the charge of raw materials has been successfully transferred to the desired polykettle, heat is applied to start the reaction. The suspension polymerization quickly occurs forming a water-polymer slurry.

Once cooled, the batch of slurry is transferred to a slurry handling system. Bulk water removal is then completed using a centrifuge. The polymer cake is transferred to a hot air drying system to remove the remaining water. The final screened product is then transferred to packaging lines.

Chemical Reaction

This process employs free radical suspension polymerization. Free radical polymerization is a method of polymerization by which a polymer forms by the successive addition of free radical building blocks. Free radicals can be formed via a number of different mechanisms usually involving separate initiator molecules. Following its generation, the initiating free radical adds (nonradical) monomer units, thereby growing the polymer chain. Suspension means that the reaction occurs in droplets of monomer suspended in a fluid which in this case is water.

Initiation is the first step of the polymerization process. During initiation, an active center is created from which a polymer chain is generated. Initiation has two steps. In the first step, one or two radicals are created from the initiating molecules. In the second step, radicals are transferred from the initiator molecules to the monomer units present. The initiator is heated until a bond is homolytically cleaved, producing two radicals.

During polymerization the polymer chain grows and propagates releasing heat of reaction until either the monomer source is consumed or until the polymer chain is terminated.

Attachment D
MSDS Documents

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME	METHACRYLIC ACID - STABILIZED
Product Description	This product contains Methacrylic acid and low levels of stabiliser.
Alternative names	Stabilised methacrylic acid; 2-Methyl 2-propenoic acid; alpha Methacrylic acid; alpha Methylacrylic acid; MAA.
CAS No.	79-41-4
Recommended uses and restrictions on use	Intermediate for production of methacrylate esters and comonomer for production of polymers.
Manufacturer	LUCITE INTERNATIONAL, Inc. 7275 Goodlett Farms Parkway Cordova, TN 38016-4909 Phone: 1-800-4-LUCITE msdsinfo@lucite.com
Emergency Phone No.	1-800-424-9300 (Transport Emergency) 1-877-886-2143 (Medical Emergency)

2. HAZARDS IDENTIFICATION

Hazard classification	Flammable liquid Category 4. Acute toxicity (Dermal) Category 3. Acute toxicity (Oral) Category 4. Acute toxicity (Inhalation) Category 4. Skin corrosion / irritation Category 1A. Serious eye damage / eye irritation Category 1. STOT - single exposure Category 3 Hazardous to the aquatic environment - Acute hazard Category 3.
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Label elements

Symbol



Signal word

Hazard statement(s)

Danger

H227: Combustible liquid.
H311: Toxic in contact with skin.
H302: Harmful if swallowed.
H332: Harmful if inhaled.
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H402: Harmful to aquatic life.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	In case of fire, use water spray, foam, dry powder or CO ₂ for extinction. Keep containers cool by spraying with water if exposed to fire.
Unsuitable Extinguishing Media	Do not use water jet.
Special hazards arising from the substance or mixture	May polymerize on heating. Sealed containers may rupture explosively if hot.
Special protective equipment and precautions for fire fighters	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Ensure suitable personal protection (including respiratory protection) during removal of spillages. Do not breathe vapor. Wear protective gloves and eye/face protection. See Section: 8
Environmental precautions	Avoid release to the environment. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.
Methods and materials for containment and cleaning up	Contain spillages with sand, earth or any suitable adsorbent material. Spillages should be neutralised by the use of lime or lime slurry followed by water washing. Do not allow to enter drains, sewers or watercourses. Transfer to a container for disposal or recovery.
Other advice	See Section: 8, 13

7. HANDLING AND STORAGE

HANDLING	<p>Do not eat, drink or smoke at the work place. Wash thoroughly after handling. Do not breathe vapor. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product.</p> <p>In the event of an uncontrolled polymerisation, indicated by temperature rise or visible formation of polymer: Evacuate the area.</p> <p>If safe to do so:</p> <p>Cool vessel by applying cooling water to cooling coils or the exterior of the vessel.</p> <p>Ensure adequate venting by opening up hatches.</p> <p>Add additional inhibitor (PTZ) in a concentrated solution or slurry.</p> <p>Dilute the methacrylic acid with water.</p> <p>CAUTION: BEWARE OF UNRELEASED PRESSURE</p> <p>IT IS STRONGLY RECOMMENDED THAT YOU REFER TO THE METHACRYLIC ACID SAFE HANDLING MANUAL FOR FURTHER INFORMATION.</p>
STORAGE	<p>Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Keep away from heat, sparks, open flame, hot surfaces - No smoking. Keep away from direct sunlight. Never let bulk quantities freeze. Bulk quantities must be stored under air. Monitor stored material for loss of inhibitor. Monomer vapors are uninhibited and may form polymers in vent or flame arresters, resulting in blockage of vents. If drums containing the product freeze, allow to thaw slowly in a warm room at temperatures up to 40°C. Roll the drums every 6 - 8 hours to mix the contents.</p> <p>Check inhibitor levels every 3 months and return to original level.</p>
Storage Temperature	<p>Ideal storage temperature is 18 - 25°C.</p> <p>Never store above 40°C.</p>
Incompatible materials:	Polymerization catalysts such as peroxy or azo compounds, strong acids, alkalis, oxidizing agents and metal salts. Attacks Copper and mild steel.
Other advice	None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substance	CAS No.	OSHA PEL TWA	ACGIH TWA	ACGIH STEL	Company Std. TWA	Company Std. STEL
Methacrylic acid	79-41-4	Not established	20 ppm (70 mg/m ³)	-		

Appropriate engineering controls

Do not eat, drink or smoke at the work place. Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded. Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection



Wear eye/face protection.
Safety spectacles/goggles/full face shield.

Skin protection



Wear protective gloves.
For splash protection: Butyl; EN 374.
For immersion protection: Butyl; 0.7 mm or greater; EN 374. Suitability of gloves should be confirmed with glove manufacturer. Change gloves, if contamination occurs or duration of activity exceeds breakthrough time. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection



Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. A suitable mask with filter type A (EN141 or EN405) may be appropriate. In the event of formation of particularly high levels of vapor a self contained breathing apparatus may be appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid.
Color.	Colorless.
Odour	Pungent.
Odour threshold (ppm)	Not available.
pH (Value)	Not available.
Melting Range (°C)	14 - 16
Boiling Point (°C)	160 with slight polymerisation.
Flash point (°C)	67 [Closed cup]
Relative Evaporation Rate (Ether = 1)	Not available.
Flammability (solid, gas)	Not applicable.
Flammable Limits (Lower) (%v/v)	1.6
Flammable Limits (Upper) (%v/v)	8.7
Vapour pressure (Pascal)	133 at 25°C
Vapor Density (Air=1)	3
Specific Gravity	1.018 at 20°C
Solubility (Water)	Miscible above 17°C Partially soluble below 17°C
Solubility (Other)	Soluble in most organic solvents.
Partition coefficient (n-Octanol/water)	0.93
Auto Ignition Temperature (°C)	400
Decomposition temperature (°C)	Not available.
Viscosity (mPa. s)	Not available.
Explosive Properties	Not applicable.
Oxidising Properties	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity

Will exothermically polymerise in the presence of initiators.

Chemical Stability

Stable under normal conditions in the presence of air between 18-25°C. Stable in the presence of inhibitor.

Hazardous Reactions

Susceptible to polymerization initiated by prolonged heating or the presence of catalyst.

Conditions to avoid	Heat and direct sunlight.
Materials to avoid	Polymerization catalysts such as peroxy or azo compounds, strong acids, alkalis, oxidizing agents and metal salts. Attacks Copper and mild steel.
Hazardous Decomposition Product(s)	Stable to at least boiling point. Some polymerisation may occur at these temperatures.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	
Ingestion	Harmful if swallowed.
Ingestion toxicity data	LD50 (rat) 1320 - 2260 mg/Kg
Ingestion STOT-single exposure	Not applicable.
Inhalation	May cause respiratory irritation. May cause drowsiness and dizziness.
Inhalation toxicity data	No information available.
Inhalation STOT-single exposure	Exposure to high concentrations may produce adverse effects on the nasal epithelium.
Respiratory sensitization data	Not a respiratory sensitizer.
Aspiration hazard data	Not an aspiration hazard.
Skin Contact	Causes severe burns. Toxic in contact with skin. Can be absorbed through skin causing systemic harmful effects.
Skin contact toxicity data	LD50 (rabbit) >500 - <1000 mg/Kg
Skin contact STOT-single exposure	Not applicable.
Skin sensitization data	It is not a skin sensitizer.
Eye Contact	Causes serious eye damage.
Eye contact toxicity data	Severe/very severe irritant to rabbit eyes.
Eye STOT-single exposure	Not applicable.
Germ cell mutagenicity data	Salmonella typhimurium (TA1535, 1537, 98, 100) negative (OECD 471)
Repeated exposure toxicity	
Chronic exposure	Repeated exposure of animals by inhalation to levels well above the occupational exposure limit produces adverse effects on the nasal epithelium (levels of 100ppm and 300ppm).
STOT - repeated exposure data	Systemic effects : NOAEC (inhalation) (rat) (90 days) 300 ppm NOAEC (inhalation) (mouse) (90 days) 100 ppm
Reproductive toxicity data	No information available but no adverse reproductive effects are anticipated.
Carcinogenicity data	It is unlikely to present a carcinogenic hazard to man.
Other information	None.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Harmful to aquatic life. LC50 (rainbow trout) (96 hour) (flow through) 85 mg/l LC50 (zebra fish) (96 hour) (semi-static) >100-180 mg/l EC50 (Daphnia magna) (48 hour) (Flow through) >130 mg/l EC50 (selenastrum capricornutum) (96 hour) 45 mg/l The product is substantially removed in biological treatment processes. Will inhibit biological treatment processes due to low pH.
Persistence and degradability	Readily biodegradable. 86% (28 days) 60% (10 days)
Bioaccumulative potential	The product has low potential for bioaccumulation.
Mobility	The product is predicted to have high mobility in soil.
Other adverse effects	Not subject to international restrictions.

13. DISPOSAL CONSIDERATIONS

Avoid release to the environment. Decontaminate empty drums before recycling.

Disposal methods Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of noxious chemical waste.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)	US Label Information : Corrosive
UN No.	2531
Proper Shipping Name	METHACRYLIC ACID, STABILIZED
Class	8
Packing group	II
Special precautions for user	No special requirements
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Marine Pollutant :	Not classified as a Marine Pollutant.

15. REGULATORY INFORMATION

US Federal Regulations

SARA 302 - Extremely Hazardous Substances Not listed

SARA 311/312 - Hazard Categories

Acute	Yes
Chronic	Yes
Fire	Yes
Reactivity	Yes
Pressure	No.

California

Proposition 65 (California) : Not listed

Canadian Regulations

WHMIS Classification

Class B, Division 3, Combustible Liquid
 Class D, Division 1, Subdivision B, Toxic Material
 Class D, Division 2, Subdivision B, Toxic Material
 Class E, Corrosive Material
 Class F, Dangerously Reactive Material

NFPA Rating

Health	3
Flammability	2
Reactivity	2

NPCA-HMIS Rating

Health	3
Flammability	2
Reactivity	2

16. OTHER INFORMATION

The following sections contain revisions or new statements: 7

Date of preparation: 13 -December- 2012

Inventory Status

European Union	To the best of our knowledge all chemicals in this product comply with REACH regulations.
United States (TSCA)	Listed in TSCA
Canada (DSL/NDSL)	Listed in DSL
Japan (ENCS)	Listed in ENCS
Philippines (PICCS)	Listed in PICCS
Australia (AICS)	Listed in AICS
South Korea (KECI)	Listed in KECI
China (IECSC)	Listed in IECSC

Import to the EU is regulated under REACH. Confirmation from Lucite International UK Ltd acting as Only Representative and registrant is required to confirm that the volume of material imported has been confirmed as within the Only Representative supply chain.

IT IS STRONGLY RECOMMENDED THAT YOU REFER TO THE METHACRYLIC ACID SAFE HANDLING MANUAL BEFORE HANDLING, STORING OR USING METHACRYLIC ACID.

Methacrylate monomers are used safely in a wide variety of applications including some areas of personal hygiene. We are aware of some reports suggesting that use of methacrylate monomers in fingernail extension applications may result in loosening or shedding of the nails of the user as well as respiratory or other effects in those exposed to high levels of the vapors. Lucite International Inc. has performed no technical or clinical testing and has no data to support the use of methacrylate monomers in this application. Under no circumstances should methacrylate monomers be used in this or similar applications.

MEDICAL USE: CAUTION: DO NOT USE IN MEDICAL APPLICATIONS INVOLVING IMPLANTATION IN THE HUMAN BODY.

Lucite International Inc. has performed no clinical testing on the use of this product in any medical application. Lucite International Inc. has no data to support the use of this product in any medical application. This product was not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. Lucite International Inc. has neither sought, nor received, approval from any regulatory agency for the use of this product in implantation in the human body or in contact with internal body fluids or tissues.

For further information on the properties and uses, or storage and handling, of Methacrylic acid refer to Product data sheet; Methacrylic acid (TS/C/2204/11).

It is the responsibility of the end-product manufacturer to identify all market and use-specific regulations and to ensure compliance with these regulations.

Subject to the exclusions and limitations set out below the Information contained in this publication or as otherwise supplied to the User is believed to be accurate and has been given in good faith. It is for the User to use the Information contained in this publication or as otherwise supplied to the User with care and satisfy itself of the suitability of the product for their intended use and the applicability of the advice given. Except to the extent that exclusion is prevented by applicable law Lucite International Inc. gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded and accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

Attachment E Emission Calculations

Emissions from each trailer were estimated using TANKS. A white, horizontal, submerged filling, no controls, painted white, and total volume capacity of 7000 gallons.

The following are the screen shots for the entry into TANKS. The estimates suggest that the working losses associated with filling a trailer will be 2.53 pounds if filled in either June or July. With an estimated fill rate of 200 pounds per minute this places the total transfer time at over three hours. The means the estimated HAP/VOC emission will be about 0.85 pounds per minute.

The screenshot shows a software window titled "Horizontal Tank" with a tabbed interface. The "Identification" tab is active. The form contains the following fields and values:

Field	Value
Identification No:	Tank Wagon
* Description:	MMA Trailer
* State:	West Virginia
* City:	Charleston
* Company:	Chemours

Below the main form is a section labeled "* Optional" which is currently empty. At the bottom of the window, there are five buttons: "Copy", "Run Report", "Save", "Close", and "Help".

Horizontal Tank

Identification | Physical Characteristics | **Site Selection** | Tank Contents | Monthly Calculations

Nearest Major City:	Charleston, West Virginia
Daily Average Ambient Temperature (F):	54.983333
Annual Average Maximum Temperature (F):	65.75
Annual Average Minimum Temperature (F):	44.216667
Average Wind Speed (mph):	6.05
Annual Average Solar Insulation Factor (Btu/(ft ² *day)):	1,250.5725
Atmospheric Pressure (psia):	14.2535

Sort by State Name

Copy | Run Report | Save | Close | Help

Horizontal Tank

Identification | Physical Characteristics | Site Selection | **Tank Contents** | Monthly Calculations

Chemical Category of Liquid: Organic Liquids

Single or Multi-Component Liquid: Single

Chemical Name:	Methyl methacrylate
CAS Number:	00080-62-6
Average Liquid Surface Temperature (F):	39
Minimum Liquid Surface Temperature (F):	32
Maximum Liquid Surface Temperature (F):	45
Bulk Liquid Temperature (F):	39
Vapor Pressure (psia) at Liquid Surface Temperature:	0.2124
Liquid Molecular Weight:	100.11
Vapor Molecular Weight:	100.11

Calculate Mixture Properties

Delete Mixture

Next Mixture >

< Previous Mixture

Add Mixture

Mixture 1 of 1

Copy | Run Report | Save | Close | Help

Horizontal Tank

Identification | Physical Characteristics | Site Selection | Tank Contents | Monthly Calculations

Dimensions:

Shell Length (ft):

Shell Diameter (ft):

Working Volume (gal):

Turnovers per Year:

Net Throughput (gal/yr):

Is Tank Heated?

Is the Tank Underground?

Shell Characteristics:

Shell Color/Shade:

Shell Condition:

Breather Vent Settings:

Vacuum Setting (psig):

Pressure Setting (psig):

Horizontal Tank

Identification | Physical Characteristics | Site Selection | Tank Contents | **Monthly Calculations**

	Throughput	Mixture Name	
JAN: <input type="checkbox"/>	0.00		Annual Throughput Specified 11,666.669
FEB: <input type="checkbox"/>	0.00		
MAR: <input type="checkbox"/>	0.00		
APR: <input type="checkbox"/>	0.00		
MAY: <input type="checkbox"/>	0.00		
JUN: <input checked="" type="checkbox"/>	5,000.00	Methyl methacrylate	
JUL: <input checked="" type="checkbox"/>	5,000.00	Methyl methacrylate	
AUG: <input type="checkbox"/>	0.00		
SEP: <input type="checkbox"/>	0.00		
OCT: <input type="checkbox"/>	0.00		
NOV: <input type="checkbox"/>	0.00		
DEC: <input type="checkbox"/>	0.00		

Total for Months
10,000.00

Fill Mixture Names With First Mixture Name

Distribute Throughput

Copy | Run Report | Save | Close | Help

Estimated emissions if loaded in June

```
<?xml version="1.0"?>
<REPORT>
<TYPE>Brief</TYPE>
<TimePeriod><Value>June</Value></TimePeriod>
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Estimated emissions if loaded in July

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Attachment S

Title V Permit Revision Information

Attachment S
Title V Permit Revision Information

I. New Applicable Requirements Summary	
Mark all applicable requirements associated with the changes involved with this permit revision:	
<input type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR15)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS (Subpart(s) _____)	<input type="checkbox"/> Section 112(d) MACT standards (Subpart(s) _____)
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64) ⁽¹⁾
<input type="checkbox"/> NO _x Budget Trading Program Non-EGUs (45CSR1)	<input type="checkbox"/> NO _x Budget Trading Program EGUs (45CSR26)
<p>⁽¹⁾ If this box is checked, please include Compliance Assurance Monitoring (CAM) Form(s) for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why Compliance Assurance Monitoring is not applicable:</p>	

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

40 C.F.R. 60, Subpart K - "Standards of Performance For Storage Vessels For Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978." There are no petroleum liquid storage tanks in the Acrylic Resin Production Area.

- a. 40 C.F.R. 60, Subpart Ka - "Standards of Performance for Storage Vessels For Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984." There are no petroleum liquid storage tanks in the Acrylic Resin Production Area.
- b. 40 C.F.R. 60, Subpart Kb - "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984." There are no volatile organic liquid storage tanks in the Acrylic Resin Production Area constructed after July 23, 1984 with a design capacity equal to or greater than 75 cubic meters (m³).
- c. 40 C.F.R. 60, Subpart VV - "Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry." The Acrylic Resin Production Area does not produce as intermediates or final products any of the materials listed in 40 C.F.R. §60.489.
- d. 40 C.F.R. 60, Subpart DDD - "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry." The Acrylic Resin Production Area does not manufacture polypropylene, polyethylene, polystyrene, or poly(ethylene terephthalate) for which this rule applies.
- e. 40 C.F.R. 60, Subpart RRR - "Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes." The Acrylic Resin Production Area does not produce any of the chemicals listed in 40 C.F.R. §60.707 as a product, co-product, by-product, or intermediate.
- f. 40 C.F.R. 61, Subpart V - "National Emission Standards for Equipment Leaks (Fugitive Emissions Sources)." Applies to sources in VHAP service as defined in 40 C.F.R. §61.241. VHAP service involves chemicals that are not used in a manner that qualifies them under the rule in the Acrylic Resin Production Area.
- g. 40 C.F.R. 63, Subpart H - "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks." 40 C.F.R. 63 Subparts F, G, and H do not apply to manufacturing process units that do not meet the criteria in 40 C.F.R. §§63.100(b)(1), (b)(2), and (b)(3).
- h. 40 C.F.R. 63, Subpart JJJ - "National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins." The Acrylic Resin Production Area does not produce the materials listed in 40 C.F.R. §63.1310.
- i. 40 C.F.R. 60, Subpart EEEE - "National Emission Standard for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)." The Acrylic Resin Production Area does not distribute organic liquids as defined by 40 C.F.R. §63.2406.

Permit Shield Requested (*not applicable to Minor Modifications*)

- j. 40 C.F.R. 63, Subpart PPPP – “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products.” The Acrylic Resin Production Area does not produce as an intermediate or final product that meets the definition of “surface coated” plastic part.
- k. 40 C.F.R. 63, Subpart WWWW - “National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production.” The Acrylic Resin Production Area does not engage in reinforced plastics composites production as defined in 40 C.F.R. §63.5785 and does not manufacture composite material as defined in 40 C.F.R. §63.5935.
- l. 40 C.F.R. 63, Subpart ZZZZ – “National Emission Standards for Hazardous Air Pollutants: Reciprocating Internal Combustion Engines.” The Acrylic Resin Production Area does not have a stationary Reciprocating Internal Combustion Engine (RICE) as defined by 40 C.F.R. §63.6675.
- m. 40 C.F.R. 63, Subpart DDDDD – “National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters.” The Acrylic Resin Production Area does not own or operate an industrial, commercial, or institutional boiler or process heater as defined in 40 C.F.R. §63.7575 of the proposed rule
- n. 40 C.F.R. 63, Subpart HHHHH – “National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing.” The Acrylic Resin Production Area does not produce, blend, or manufacture coatings as part of the manufacturing process.
- o. 40 C.F.R. 82, Subpart B - “Protection of Stratospheric Ozone.” Requires recycling of Chlorofluorocarbons (CFCs) from motor vehicles and that technicians servicing equipment need to be licensed. The Acrylic Resin Production Area does not conduct motor vehicle maintenance involving CFCs on site.
- p. 40 C.F.R. 82, Subpart C – “Protection of Stratospheric Ozone.” Bans non-essential products containing Class I substances and bans non-essential products containing or manufactured with Class II substances. The Acrylic Resin Production Area does not use, manufacture, nor distribute these materials.
- q. 45CSR2 – “To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.” The Acrylic Resin Production Area does not contain any fuel burning units.
- r. 45CSR10 – “To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.” The Acrylic Resin Production Area does not contain any fuel burning units subject to the sulfur dioxide weight emission standards of 45CSR§10-3. Also, per 45CSR§10-4.1.e, manufacturing process source operations in the Acrylic Resin Production Area are exempt from the sulfur dioxide concentration limits of 45CSR§10-4.1 because the potential to emit of sulfur dioxide is less than 500 pounds per year.
- s. 45CSR16 – “Standards of Performance for New Stationary Sources Pursuant to 40 C.F.R. 60.” The Acrylic Resin Production Area is not subject to any requirements under 40 C.F.R. 60.
- t. 45CSR17 – “To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter.” Per 45CSR§17-6.1, the Acrylic Resin Production Area is not subject to 45CSR17 because it is subject to the fugitive particulate matter emission requirements of 45CSR7.

Permit Shield Requested *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? Yes No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-0181D	11/13/2015	No applicable permit condition
	/ /	
	/ /	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
	MM/DD/YYYY	
	/ /	
	/ /	

6. Change in Potential Emissions

Pollutant	Change in Potential Emissions (+ or -), TPY
VOC	+0.0253
HAP (Methyl methacrylate)	+0.0253

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

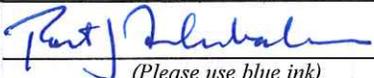
7. Certification For Use Of Minor Modification Procedures (Required Only for Minor Modification Requests)

Note: This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:

- i. Proposed changes do not violate any applicable requirement;
- ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;
- iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;
- v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;
- vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed):	 <i>(Please use blue ink)</i>	Date:	June / 20 2016 <i>(Please use blue ink)</i>
Named (typed):	Robert Fehrenbacher	Title:	Plant Manager

Note: Please check if the following included (if applicable):

<input type="checkbox"/>	Compliance Assurance Monitoring Form(s)
<input type="checkbox"/>	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.