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DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

SHIP & SHORE ENVIRONMENTAL, INC.

Yellowstone Plastics, Inc.

IDEQ Permit to Construct Application

50,000 SCFM RTO

JOB#2016-563

Andrew Nimrod

06/29/2016

SSE-50K-95X-RTO

2474 North Palm Drive •Signal Hill, CA 90755 • Tel: (562) 997-0233 • Fax (562) 997-0604
Web site: www.shipandshore.com

SHIP & SHORE
ENVIRONMENTAL, INC.

Engineering Equipment Installation Service

Idaho DEQ Air Quality Program
1410 N. Hilton
Boise, ID 83706

Re: Installation of New Regenerative Thermal Oxidizer (RTO) and new Flexographic Press at:

Yellowstone Plastics, Inc.
3725 W 65th Street
Idaho Falls, ID 83402
Site ID No. 019-00041

Attention Mr. Daniel Pitman:

Dear Mr. Pitman,

Yellowstone Plastics, Inc. wishes to apply for a Permit to Construct to retrofit their facility by replacing their existing CMM 25,000 SCFM Regenerative Thermal Oxidizer with a new 50,000 SCFM Ship & Shore Environmental, Inc. Regenerative Thermal Oxidizer (RTO) for pollution abatement. They are also planning on expanding their flexographic printing operations by adding on a sixth press. All VOC's will be drawn to the RTO via process ducting where printing and ink mixing is taken place. All else remains the same.

The following items are attached:

Title Sheet
RTO General Description
Form GI – Facility and Permit Information
Form AO – RTO Information
Form EU0 – Press P-1 form
Form EU0 – Press P-2 form
Form EU0 – Press P-3 form
Form EU0 – Press P-4 form
Form EU0 – Press P-5 form
Form EU0 – Press P-6 form – New Press Addition
Facility Wide Potential to Emit Emission Inventory form
Toxic Air Pollutant Emissions Inventory Form
Facility Wide Hazardous Air Pollutant Potential to Emit form
Form FRA – Regulatory Review form

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Web site: www.shipandshore.com

Emissions calculations (VOC, TAPs, HAPs, Combustion)
Plot Plan Drawing #2016-563-A01
General Arrangement Drawing #2016-563-M02
Process Flow Diagram #2016-563-PFD
Retention Time Calculation
MSDS of Coating solvents

If anything else is required, please let me know and I will provide it right away

Best regards,
Andrew Nimrod
animrod@shipandshore.com
562-997-0233

SHIP & SHORE ENVIRONMENTAL, INC.

Engineering Equipment Installation Service

Regenerative Thermal Oxidizer General Description

Increased Public awareness of the need for air quality control has resulted in the United States Environmental Protection Agency air quality standards for most common air pollutants, notably hydrocarbons. As we know, the exhaust gases from many industrial processes contain Volatile Organic Compounds (VOCs.). When released into the atmosphere, VOCs contribute to the formation of harmful ozone and are health hazards.

This Volatile Organic Compound Abatement System (or VOC Abatement System) is designed to control such hydrocarbon emissions using a Ship & Shore Environmental, Inc. regenerative thermal oxidizer and a system of fans, filters and ducts.

The Regenerative Thermal Oxidizer (RTO) is designed with a combustion chamber section operating at approximately 1500 ºF with a retention time of 0.50 second or greater. Below and at each end of the combustion chamber is a heat storage section containing a ceramic heat transfer media [two (2) heat storage sections total].

The exhaust gases from the combustion chamber travel through one (1) of the heat storage sections wherein they are cooled to between 170ºF and 250ºF. As the gases flow through the section they raise the temperature of the ceramic heat transfer media.

Approximately every two (2) minutes the valve system causes the gas to flow in reverse so that the incoming air will pass through the just heated media and the combustion chamber exhaust gases travel through the other storage section. In this way the incoming gases will be heated to approximately 95% of the combustion chamber temperature.

Because of the high thermal efficiency of this system, relatively little fuel will be required to sustain the operating temperature. Often the fuel value of the incoming VOC will be enough to suffice.

The control panel consists of devices that are UL approved. A PLC (Programmable Logic Controller) supervises system's safeties and operating sequences. A burner flame safeguard relay monitors the burner limits and the burner flame with an ultraviolet scanner. A separate high temperature limit controller protects the unit from over temperature. A chart recorder/controller constantly controls and records the combustion chamber temperature.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

General Information - **Form GI**
4/7/16

Please see instructions on second page before filling out the form.

FACILITY AND PERMIT INFORMATION

1. Facility Name:	2. Facility ID Number:
Yellowstone Plastics, Inc.	019-00041
3. Brief Project Description:	Yellowstone would like to apply for a new PTC for their current flexographic presses, one new future press, and one new 50,000 SCFM Regenerative Thermal Oxidizer.
4. Facility Contact Name:	5. Facility Contact Title:
Mitch Chapple	Plant Operations Manager
6. Facility Contact Telephone Number:	7. Facility Contact Email:
208-542-1200	mchapple@yellowstoneplastics.com
8. Mailing address where permit will be sent (street/city/state/zip code):	9. Physical address of facility (if different than mailing address) (street/city/state/zip code):
3725 W 65th S, Idaho Falls, ID 83402	3725 W 65th S, Idaho Falls, ID 83402

10. County Facility is located	Bonneville	
11. Is the equipment portable?	☒ No ☐ Yes	
12. NAICS codes	Primary NAICS: 326112	Secondary NAICS (if applicable):
Brief business description and principal product produced:	Flexographic Printing (roller coating) of polyethylene plastic bags	
14. Describe any contiguous or adjacent facility this company owns or operates:	N/A	
15. Permit Application Type. Provide Permit Number for existing permit. For a PTC, an application fee is required.	☒ Initial Permit to Construct (PTC) ☐ PTC Modification	PTC No. _____ Issued Date _____
	☒ Initial Tier II ☐ Tier II Modification ☐ Tier II Renewal	Tier II No. _____ Issued Date _____
	☐ Initial Tier I ☐ Tier I Administrative Amendment ☐ Tier I Minor Modification ☐ Tier I Significant Modification ☐ Tier I Renewal	Tier I No. _____ Issued Date _____
16. **For Tier I permitted facilities only:** If you are applying for a PTC then you must specify how the PTC will be incorporated into the Tier I permit.	☐ Incorporate PTC at the time of Tier I renewal (IDAPA 58.01.01.209.05.a) ☐ Co-process PTC with Tier I Modification (IDAPA 58.01.01.209.05.b) ☐ Administrative amend the Tier I to incorporate PTC upon applicant's request (IDAPA 58.01.01.209.05.c)	
17. ☒ Check here to request facility draft permit before final issuance.		

Certification of Truth, Accuracy, and Completeness (by Responsible Official)
I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123 124.

Responsible Official Signature	Plant Manager *Responsible Official Title*	7/5/16 *Date*

Mitch Chapple
nt or Type Responsible Official Name

Instructions for Form GI

Facility Information:

1. Provide facility name. If the facility is doing business as (dba) a facility different in name than the primary facility, provide the dba name.

2. If the facility is an existing permitted facility in Idaho, provide the facility identification number. If the facility is new and does not yet have a Facility ID, leave blank.

3. Provide a brief project description.

4-7. Provide the name of the *primary* contact person for this permit application. Provide title, telephone number, and e-mail address for the primary contact person.

8. Provide mailing address where DEQ should mail the final permit.

9. Provide the physical address where the equipment or facility is located (if different than 8).

10. Provide the Idaho County where the equipment or facility is located.

11. Indicate if equipment is portable by checking the appropriate box.

12. Provide the primary and secondary (if applicable) North American Industry Classification System (NAICS) code(s) for your facility.

13. Describe the primary activity and principal product of your business as it relates to the NAICS code listed in 12.

14. Identify and describe any other sources or equipment owned and operated by the primary facility that are located on contiguous or adjacent properties and the role the source or equipment plays in supporting the primary facility.

Permit Application Type:

15. Check the box describing the type of permit application. Provide the permit number as applicable.

    Important note: One hard copy of the application and a compact disc (CD) with a PDF version of the application is required to be submitted. Applications can be mailed or submitted to:

    Idaho Department of Environmental Quality
    Attn: Air Quality Program
    1410 North Hilton
    Boise, ID 83706-1255

PTC Fee:

Important note: If application is for a permit to construct (PTC), include the application fee of $1,000 when submitting the application. Per IDAPA 58.01.01.226.02, DEQ cannot process the application without the fee, which must be submitted with the application.

If paying PTC Fee with a check, make the check payable to the Idaho Department of Environmental Quality, and send with the application to the above address:

If paying with a credit card or E-check, payment can be made at https://www.accessidaho.org/ai/payport/online/deq/index.html (***Note:*** *Convenience fee of 3% applies to credit card payments, $5 to E-check payments.*)

If paying by bank wire transfer the DEQ Fiscal Office at (208) 373-0446.

16. For existing Tier I facilities that are applying for a PTC, the applicant must specify how the PTC will be incorporated into the Tier I permit (IDAPA 58.01.01.209.05). If you have questions, call the Air Permit Hotline at 1-877- 5Permit (1-877-573-7648).

17. Check this box to indicate if you want to review a draft permit before the final permit is issued.

Certification of Truth, Accuracy, and Completeness (by Responsible Official):

Provide the name, title, address, telephone number, and e-mail of the facility's responsible official. Responsible Official is defined in IDAPA 58.01.01.006. The responsible official must sign and date the application before it is submitted to DEQ. **Important note:** Only a “wet signature” can be accepted.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Afterburner/Oxidizer - **Form AO**
Revision 2
08/28/08

Please see instructions on page 3 before filling out the form.

IDENTIFICATION

1. Company Name:	Yellowstone Plastics, Inc.	2. Facility Name:	Yellowstone Plastics, Inc.	3. Facility ID No.:	019-00041
4. Brief Project Description:	Installation of a new 50,000 SCFM RTO				

AFTERBURNER/OXIDIZER INFORMATION

Equipment Description

5. Manufacturer:	Ship and Shore Environmental, Inc.	6. Model Number:	SSE-50K-95X-RTO

7. Type

☐ Catalytic oxidizer
☐ Recuperative oxidizer
☐ Thermal (direct fired) oxidizer
☒ Regenerative thermal oxidizer (RTO)
Number of chambers:
Is a rotoconcentrator for VOC part of the design? ☐ Yes ☒ No

Media type for regenerative oxidizer:
☐ Saddles
☐ Monolith
☒ Other:
For recuperative oxidizer, type of heat exchanger:
☐ Shell and tube
☐ Plate
☐ Other:

8. Type of Burner

☒ Gas fired Btu rating: 8,600,000
☐ Electric KW rating:
☐ Oil fired Btu rating:

Blower scfm: 50,000
Blower hp: 250

Manufacturer's emission guarantee for burners for:
NOx: 100 ppm @ 3 % O_2
CO: 400 ppm @ 3 % O_2

9. Design Criteria

Retention time at normal operating temperature: 0.648 seconds at 1500 degrees F
Combustion chamber volume: 2,486 cubic feet (ft^3)
Design gas flow: 50,000 scfm

10. Pre-Treatment

Is a pre-treatment device for particulate removal present? ☐ Yes ☒ No
If yes, indicate type: ☐ Cyclone ☐ Precooler ☐ Preheater ☐ Knock-out chamber ☐ Baghouse ☐ Other:

11. Auxiliary Fuel Data

Auxiliary fuel available? ☐ Yes ☒ No
If yes, indicate type:

Fuel usage (check one):

	Maximum	Minimum	Average
☒ Cubic feet (ft^3)/hour	8,600	0	
☐ Gallons/hour			

12. For Catalytic Oxidizer

Catalyst manufacturer:

Type of catalyst:
☐ Low temperature catalyst
☐ Commercial noble metal
☐ Other:
Estimated catalyst life: years
Catalyst cleaning frequency: months
Method of cleaning:

Does the process emit any of the following potential catalyst masking agents or deactivators?
☐ Yes (if yes, check type[s] below) ☐ No
☐ Halogen ☐ Heavy metal
☐ Silicone ☐ Sulfur compounds
☐ Phosphorus compound ☐ Particulate matter

13. Process Blower

Blower: 250 hp Design flow rate: 50,000 scfm Draft: ☒ Forced ☐ Induced

Process Stream Characteristics

14. Brief Description of Process	Yellowstone Plastics currently has five flexographic printing presses that exhaust all VOC's to an existing 25,000 scfm oxidizer. Due to existing ducting design the presses are not able to run at full capacity so a new bigger oxidizer is planned. This new 50K RTO will also be taking on an additional 6th flexographic printing press in the near future.

15. Emission Data

Air contaminant	Concentration ppmv	Destruction efficiency %
See VOC calculation Sheet		98% or 20 ppmv or less

16. Instrumentation Data	RTO will come equipped with 7 thermocouples to monitor Inlet, Outlet, Hopper, and retention chamber temperatures. All temperatures will be digitally datalogged for service and air compliance purposes.
17. Bakeout Process	Is bakeout a feature of the process? ☐ Yes ☒ No

18. Operating Conditions

	Maximum	Minimum	Average
Operating temperature (degrees F):	1700	1475	1500
Exit gas temperature (degrees F):	250	170	225
Pressure inches (H_2O):	21		
Moisture content (%):	ambient	ambient	ambient
Gas volume (scfm):	50,000	15,000	~40,000
Gas velocity (duct-ft/min):	4,381	1,314	3,505

19. Operating Schedule

Normal:	27 hours/day	7 days/week	51 weeks/year
Maximum:	24 hours/day	7 days/week	52 weeks/year

Instructions for Form AO

For afterburners/oxidizers only, this form may be used *in place of* Form EU0 and control equipment forms.

1 – 4. Please fill in the same company name, facility name (if different), facility ID number, and brief project description as on Form CS. This is useful in case any pages of the application are separated.

Equipment Description

5 -13. The information requested should be found in the operations and maintenance manual supplied by the afterburner/oxidizer manufacturer.

Process Stream Characteristics

14. Give a brief description of the process, and include a process flow diagram and engineering drawing of the filter system and the material processed. In the space provided, indicate what equipment is vented to the cyclone and how material is handled and disposed of.

15. Provide emissions data for each contaminant, along with concentration and destruction efficiency.

16. Specify instrumentation for measuring temperature, pressure drop, and other operating parameters. (If the description will not fit in the space provided, please attach a separate sheet.)

17. Provide information about the breakthrough feature of this equipment by checking one of the two boxes provided

18. Provide information describing the operating condition of this equipment.

19. Provide a normal and a maximum operating schedule.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Yellowstone Plastics, Inc.	Yellowstone Plastics, Inc.	019-00041

4. Brief Project Description:	PCMC 6C Flexographic Printing Press

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	PCMC 6 COLOR PRESS
6.	EU ID Number:	P-1
7.	EU Type:	☐ New Source ☒ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	PCMC
9.	Model:	6 COLOR
10..	Maximum Capacity:	1,200 FEET/MIN
11.	Date of Construction:	EXISTING
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	RTO and RTO-1		
15. Date of Installation:	~10/2016	16. Date of Modification (if any):	
17. Manufacturer and Model Number:	Ship and Shore Environmental, Inc. - SSE-50K-95X-RTO		
18. ID(s) of Emission Unit Controlled:	P-1, P-2, P-3, P-4, P-5, and P-6(new)		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	Negligible	Negligible	N/A	100 ppm	98%	400

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24/7/51
23.	Maximum Operation:	24/7/52

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as “Union boiler,” etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler’s rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer’s literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment’s identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Yellowstone Plastics, Inc.	Yellowstone Plastics, Inc.	019-00041

4. Brief Project Description:	PCMC 8 color printing press

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	PCMC 8 COLOR PRESS
6.	EU ID Number:	P-2
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	PCMC
9.	Model:	8 COLOR
10..	Maximum Capacity:	1,200 FEET/MIN
11.	Date of Construction:	EXISTING
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	RTO and RTO-1		
15. Date of Installation:	~10/2016	16. Date of Modification (if any):	
17. Manufacturer and Model Number:	Ship and Shore Environmental, Inc. - SSE-50K-95X-RTO		
18. ID(s) of Emission Unit Controlled:	P-1, P-2, P-3, P-4, P-5, and P-6(new)		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	Negligible	Negligible	N/A	100 ppm	98%	400

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24/7/51
23.	Maximum Operation:	24/7/52

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as “Union boiler,” etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler’s rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer’s literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment’s identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Yellowstone Plastics, Inc.	Yellowstone Plastics, Inc.	019-00041

4. Brief Project Description:	F&K 10C printing press

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	F&K 10C PRINTING PRESS
6.	EU ID Number:	P-3
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	F&K
9.	Model:	16S
10..	Maximum Capacity:	1,100 FEET/MIN
11.	Date of Construction:	EXISTING
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	RTO and RTO-1		
15. Date of Installation:	~10/2016	16. Date of Modification (if any):	
17. Manufacturer and Model Number:	Ship and Shore Environmental, Inc. - SSE-50K-95X-RTO		
18. ID(s) of Emission Unit Controlled:	P-1, P-2, P-3, P-4, P-5, and P-6(new)		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	Negligible	Negligible	N/A	>100 ppm	98%	400

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24/7/51
23.	Maximum Operation:	24/7/52

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as “Union boiler,” etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler’s rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer’s literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment’s identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Yellowstone Plastics, Inc.	Yellowstone Plastics, Inc.	019-00041

4. Brief Project Description:	Bielloni FSC Telia Printing Press

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	FSC TELIA
6.	EU ID Number:	P-4
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	BIELLONI
9.	Model:	FSC TELIA 8C
10..	Maximum Capacity:	1,600 FEET/MIN
11.	Date of Construction:	EXISTING
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	RTO and RTO-1		
15. Date of Installation:	~10/2016	16. Date of Modification (if any):	
17. Manufacturer and Model Number:	Ship and Shore Environmental, Inc. - SSE-50K-95X-RTO		
18. ID(s) of Emission Unit Controlled:	P-1, P-2, P-3, P-4, P-5, and P-6(new)		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	Negligible	Negligible	N/A	>100 ppm	98%	400

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24/7/51
23.	Maximum Operation:	24/7/52

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as “Union boiler,” etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler’s rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer’s literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment’s identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Yellowstone Plastics, Inc.	Yellowstone Plastics, Inc.	019-00041

4. Brief Project Description:	Vision 8C print press

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	VISION 8C
6.	EU ID Number:	P-5
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	PCMC
9.	Model:	VISION
10..	Maximum Capacity:	800 FEET/MIN
11.	Date of Construction:	EXISTING
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	RTO and RTO-1		
15. Date of Installation:	~10/2016	16. Date of Modification (if any):	
17. Manufacturer and Model Number:	Ship and Shore Environmental, Inc. - SSE-50K-95X-RTO		
18. ID(s) of Emission Unit Controlled:	P-1, P-2, P-3, P-4, P-5, and P-6(new)		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	Negligible	Negligible	N/A	>100 ppm	98%	400

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24/7/51
23.	Maximum Operation:	24/7/52

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as “Union boiler,” etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler’s rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer’s literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

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Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment’s identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Yellowstone Plastics, Inc.	Yellowstone Plastics, Inc.	019-00041

4. Brief Project Description:	New Flexotecnica EVO XG flexographic printing press

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	EVO XG 160 10C
6.	EU ID Number:	P-6
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	FLEXOTECNICA
9.	Model:	EVO XG 160
10..	Maximum Capacity:	~1,969 FEET/MIN
11.	Date of Construction:	~DECEMBER 2016
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	RTO and RTO-1		
15. Date of Installation:	~10/2016	16. Date of Modification (if any):	
17. Manufacturer and Model Number:	Ship and Shore Environmental, Inc. - SSE-50K-95X-RTO		
18. ID(s) of Emission Unit Controlled:	P-1, P-2, P-3, P-4, P-5, and P-6(new)		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	Negligible	Negligible	N/A	100 ppm	98%	400

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	24/7/51
23.	Maximum Operation:	24/7/52

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as “Union boiler,” etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler’s rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer’s literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment’s identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Version 1, August 2010

Facility Wide Potential to Emit Emission Inventory

Application Template and Instructions

For new stationary sources provide the facility's potential to emit for all NSR Regulated Air Pollutants. The potential to emit provided here must match the emissions rates which are requested to be permitted.

For modifications to existing facilities (including the addition of new emissions units), if the existing facility classification is in question an existing facility wide potential to emit emission inventory will be required to be submitted[1]. Contact DEQ to determine if a facility wide emission inventory for the existing facility is required.

All emissions inventories must be submitted with thorough documentation. The emission inventories will be subjected to technical review. Therefore, prepare your application with sufficient documentation so that the public and DEQ can verify the validity of the emission estimates. **Applications submitted without sufficient documentation are incomplete. Follow the instructions provided on page 2; do not proceed until you have read the instructions.**

Applicants must use the Potential to Emit Summary table provided below.

Table 1. POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	**Total PM**	**Sulfur Dioxide**	**Nitrogen Oxides**	**Carbon Monoxide**	**TOC (Nonmethane VOC)**	**CO2e**
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Facility	0.048	0.0038	.635	.553	.035	763
RTO-1	.12	.01	1.57	1.32	.09	5827
Fugitive Sources *{For listed source categories only, see item 3 below in the instructions}*						
XXX	0.00	0.00	0.00	0.00	0.00	0.00
XXX	0.00	0.00	0.00	0.00	0.00	0.00
XXX	0.00	0.00	0.00	0.00	0.00	0.00
Totals	**.168**	**.014**	**2.21**	**1.87**	**.125**	**6,590**

a) NSR Regulated air Pollutants are defined[2] as: Particulate Matter (PM, PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, CO_2e[3], Green House Gases (GHG) mass, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)

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[1] The applicant must determine if the existing facility is a major facility. If the facility is an existing PSD major facility and changes are being made to the facility the major modification test must be conducted.

[2] 40 CFR 52.21(b)(50), as incorporated by reference at IDAPA 58.01.01.107.03.d

[3] Multiply each green house gas (GHG) by the global warming potential (GWP) listed at 40 CFR 98, Table A- 1 of Subpart A then sum all values to determine CO_2e (GHGs are carbon dioxide, nitrous oxide, methane, hydrofluorcarbons, perfluorcarbons, sulfur hexafluoride). Be sure to show all calculations as described in the instructions.

Applicants are encouraged to call DEQ's Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application.**Emission Inventory Instructions:**

1. Use the same emission unit name throughout the application (i.e. in air pollution control equipment forms and for modeling purposes).

2. The application must **show in detail all calculations** used to develop the PTE summary and include:

   - Electronic copies of any spreadsheets used to estimate emissions. If a spreadsheet is used submit an electronic copy of the spread sheet (i.e. Excel File).
   - Documentation of all calculations conducted by hand (i.e. show all calculations).
   - Clear statements on all assumptions relied upon in estimating emissions.
   - Documentation of the emissions factors used to estimate emissions. If the emissions factor documentation is readily available to DEQ, such as an EPA AP-42 emissions factor, a simple reference to the emissions factor suffices. If the emissions factor documentation is not readily available to DEQ the applicant must submit the documentation with the application; ask DEQ if you are uncertain. **Applications without sufficient documentation are incomplete.** Documentation may consist of manufacturer guarantees, research conducted by trade organizations, published emission factors, and source test results. **If there are multiple factors for a given operation, note why the factor used is the most representative.**
   - Copies of manufacturer guarantees upon which emission inventories are based.
   - The best available emission information (see DEQ's Guidance on Emission Data Hierarchy).
   - If source tests are used as the basis for emissions estimates the source test report must be submitted. If the source test report is on file with DEQ provide the date of the source test was submitted along with the name of the facility and the emission unit that was tested. Source data from similar emissions units may be considered reliable provided it is clearly described why the sources are similar. Similar sources are those that the applicant has shown serve a similar function, use similar raw materials, and have similar processing rates.

3. Fugitive emissions of NSR regulated air pollutants from the source categories listed below must be included in the emission inventory.

Listed Source Categories for Inclusion of Fugitive Emissions

- Coal cleaning plants (with thermal dryers)
- Kraft pulp mills
- Portland cement plants
- Primary zinc smelters
- Iron and steel mills
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators -250 T/day of refuse
- Hydrofluoric, sulfuric, or nitric acid plants
- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace process)
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plants (excluding ethanol plants by natural fermentation).
- Fossil-fuel fired boilers totaling more than 250 MMBtu/hr
- Petroleum storage and transfer units with total capacity of 300,000 barrels
- Taconite ore processing plants
- Glass fiber processing plants
- Charcoal production plants
- Fossil fuel-fired steam electric plants greater than 250 MMBtu/hr)
- Categories regulated by NSPS or NESHAP prior to 8/7/80

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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Toxic Air Pollutant Emissions Inventory

Application Template and Instructions

Applicants must demonstrate preconstruction compliance with toxic air pollutant (TAP) standards contained in IDAPA 58.01.01.210 (*Rules for the Control of Air Pollution in Idaho*). DEQ has developed a TAP completeness checklist in order to assist applicants. DEQ strongly recommends that applicants complete and submit this checklist as part of the application. **Applications which do not follow one of the available methods for demonstrating compliance described in the checklist will be determined incomplete or denied.** Follow this link to the checklist: Toxic Air Pollutant Application Completeness Checklist. Be sure to calculate emissions correctly for the averaging periods as described in the checklist and in the instructions on page 3.

The type of TAP emissions inventory required depends upon which method is used to demonstrate compliance (see the Toxic Air Pollutant Application Completeness Checklist). **All TAP emissions inventories must be summarized using the emissions inventory summary tables provided below** (Table 1 and Table 2).

The applicant must **document all emission calculations as described in the instructions provided on the following page. Applications without sufficient documentation are incomplete; do not proceed until you have read the instructions.**

Applicants are encouraged to call DEQ's Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application.

Table 1. PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Methanol	**.231**	**.005**	**-0.23**	**17**	**No**
Xylene	**.412**	**.009**	**-0.40**	**29**	**No**
Ethanol	**6.04**	**.14**	**-5.90**	**125**	**No**
N-Propanol	**87.17**	**2.0**	**-85.16**	**33.3**	**No**
N-Propyl Acetate	**23.55**	**.54**	**-23.01**	**56**	**No**
Ethyl Acetate	**.433**	**.010**	**-0.42**	**93.3**	**No**
Isopropanol	**.240**	**.006**	**-0.23**	**65.3**	**No**
Isopropyl Acetate	**0.64**	**.015**	**-0.62**	**69.3**	**No**
Heptane	**.79**	**.018**	**-0.77**	**109**	**No**

Table 2. PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
XXX *{586 listed TAP}*[a]	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**
XXX *{586 listed TAP}*	**0.00E-03**	**0.00E-03**	**0.0000**	**XXX**	**Yes/No**

a) *{If you have POM include the following footnote.}* Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Pre-project average emissions are the existing allowable emission rates.

Post-project average emissions are the new proposed emission rates.

Emission Inventory Instructions:

1. The averaging period for the emission rate depends upon whether the TAP is non-carcinogenic or carcinogenic. Non-carcinogenic TAP emissions are averaged over 24 hours, carcinogenic TAP emissions are averaged over 8760 hours.

   For more explanation on averaging periods, see the Toxic Air Pollutant Application Completeness Checklist.

2. **Pre**-project average emissions are the existing allowable emission rates.

   Post-project average emissions are the new proposed emission rates.

3. Use the same emission unit name/designation throughout the application (i.e. air pollution control equipment forms and modeling forms).

4. The emission inventories will be subjected to technical review; prepare your application with sufficient documentation so that the public and DEQ can verify the validity of the emission estimates. The application must **show in detail all emission calculations** used to develop the emission inventory summary and must include the following:

   - **Clear documentation of any emissions averaging that was used.** For instance if a source only operates 8 hours during any day and the emissions during that 8 hour period are averaged over 24 hours then this must be clearly described in the application. The emissions averaging calculations must also be shown.
   - Electronic copies of any spreadsheets used to estimate emissions. If a spreadsheet is used submit an electronic copy of the spread sheet (i.e. Excel File).
   - Documentation of all calculations conducted by hand (i.e. show all calculations).
   - Clear statements on all assumptions relied upon in estimating emissions.
   - Documentation of the emissions factors used to estimate emissions. If the emissions factor documentation is readily available to DEQ, such as an EPA AP-42 emissions factor, a simple reference to the emissions factor suffices. If the emissions factor documentation is not readily available to DEQ the applicant must submit the documentation with the application; ask DEQ if you are uncertain. **Applications without sufficient documentation are incomplete.** Documentation may consist of manufacturer guarantees, research conducted by trade organizations, published emission factors, and source test results. **If there are multiple factors for a given operation, note why the factor used is the most representative.**
   - Copies of manufacturer guarantees upon which emission inventories are based.
   - The best available emission information (see DEQ's Guidance on Emissions Data Hierarchy).
   - If source tests are used as the basis for emissions estimates the source test report must be submitted. If the source test report is on file with DEQ provide the date of the source test was submitted along with the name of the facility and the emission unit that was tested. Source test data from similar emissions units may be considered reliable provided it is clearly described why the sources are similar. Similar sources are those that the applicant has shown serve a similar function, use similar raw materials, and have similar processing rates.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Version 1, August 2010

Facility Wide Hazardous Air Pollutant Potential to Emit
Application Template and Instructions

Provide the facility wide potential to emit for all Hazardous Air Pollutants (HAPs). **The potential to emit provided here must match the emissions rates which are requested to be permitted.**

HAPs are pollutants that are required to be regulated under the Clean Air Act. A list of the HAPs may be found by following this link: HAP list; review the list carefully to be sure you have included all listed HAPs.

All emissions inventories must be submitted with thorough documentation. The emission inventories will be subjected to technical review; prepare your application with sufficient documentation so that either the public or DEQ can verify the validity of the emission estimates. **Applications submitted without sufficient documentation are incomplete. Follow the instructions provided on the following page; do not proceed until you have read the instructions.**

Applicants must use the Potential to Emit Summary table provided below. Identify the individual HAP with the highest emissions and total HAP emissions. The potential to emit provided here must match the emissions rates which are requested to be permitted. **All fugitive emissions of HAPs must be included.**

Table 1 HAP POTENTIAL TO EMIT EMISSIONS SUMMARY

HAP Pollutants	PTE (T/yr)
Methanol	**1.01**
Xylene	**1.80**
Total	**2.81**

* Maximum Individual HAP

Applicants are encouraged to call DEQ's Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application.

Emission Inventory Instructions:

1. Use the same emission unit name throughout the application (i.e. in air pollution control equipment forms and for modeling purposes).

2. The application must **show in detail all calculations** used to develop the PTE summary and include:

   - Electronic copies of any spreadsheets used to estimate emissions. If a spreadsheet is used submit an electronic copy of the spread sheet (i.e. Excel File).
   - Documentation of all calculations conducted by hand (i.e. show all calculations).
   - Clear statements on all assumptions relied upon in estimating emissions.
   - Documentation of the emissions factors used to estimate emissions. If the emissions factor documentation is readily available to DEQ, such as an EPA AP-42 emissions factor, a simple reference to the emissions factor suffices. If the emissions factor documentation is not readily available to DEQ the applicant must submit the documentation with the application; ask DEQ if you are uncertain. **Applications without sufficient documentation are incomplete.** Documentation may consist of manufacturer guarantees, research conducted by trade organizations, published emission factors, and source test results. **If there are multiple factors for a given operation, note why the factor used is the most representative.**
   - Copies of manufacturer guarantees upon which emission inventories are based.
   - The best available emission information (see DEQ's Guidance on Emissions Data Hierarchy).
   - If source tests are used as the basis for emissions estimates the source test report must be submitted. If the source test report is on file with DEQ provide the date of the source test was submitted along with the name of the facility and the emission unit that was tested. Source data from similar emissions units may be considered reliable provided it is clearly described why the sources are similar. Similar sources are those that the applicant has shown serve a similar function, use similar raw materials, and have similar processing rates.

2. **All fugitive emissions of HAPs must be included[1].**

[1] November 27, 2001 (66 FR 59161), EPA published a rule, "Change to Definition of Major Source," that requires the fugitive emissions of all hazardous air pollutants ("HAPs") listed under section 112(b) of the Act in determining whether the source is a major source.

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Preapplication Meeting Information Form FRA (Federal Requirements Applicability) - Regulatory Review

In each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name:	2. Facility Name: Yellowstone Plastics, Inc.
Yellowstone Plastics, Inc.	
3. Brief Project Description:	Yellowstone Plastics is purchasing a new flexographic printing press and thus needs to purchase a new bigger Regenerative Thermal Oxidizer. The new oxidizer will be a 50,000 SCFM unit.

APPLICABILITY DETERMINATION	
4. List all applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). List all non-applicable subparts of the NSPS which may appear to apply to the facility but do not. Examples of NSPS-affected emissions units include internal combustion engines, boilers, turbines, etc. Applicant must thoroughly review the list of affected emissions units.	List of all applicable subpart(s): List of all non-applicable subpart(s) which may appear to apply but do not: ☑ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR part 61 and 40 CFR part 63). List all non-applicable subparts of the NESHAP which may appear to apply to the facility but do not. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. Reference EPA's webpage on NESHAPs for more information.	List of all applicable subpart(s)~~):~~ List of all non-applicable subpart(s) which may appear to apply but do not: 40 CFR Part 63 Subpart KK: 63.820 ☐ Not Applicable
6. For each subpart identified above, conduct a complete regulatory analysis using the instructions and referencing the example on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation does or does not apply. Regulatory reviews submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☑ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT.

It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand those requirements prior to submittal of the application but that DEQ will not perform the required technical or regulatory analyses on the applicant's behalf.

Instructions for Form FRA

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Item 4 & 5. It is important that facilities review the most recent federal regulations when submitting their permit application to DEQ. Current federal regulations can be found at the following website: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?&c=ecfr&tpl=/ecfrbrowse/Title40/40tab_02.tpl.

Item 6. For each applicable subpart identified under items 4-5, conduct a complete regulatory analysis. The facility must follow the procedure given below or obtain permission from DEQ to provide the necessary information using an alternative procedure:

1. Retrieve a TEXT or PDF copy of the applicable federal regulation subpart(s) online at http://www.gpoaccess.gov/cfr/retrieve.html.

2. Copy and paste the regulation(s) into the DEQ air permit application.

3. Highlight or underline sections in the regulation(s) that are applicable to the source(s).

4. Under each section of the subpart, explain why the source is or is not subject to the section in addition to how the source will comply with the section. When providing the explanation use a different font than the regulation (i.e***. bold, italic***) so that it is easy for the reader to determine the text provided by the applicant. An example NSPS regulatory analysis is attached. The applicant must provide all information needed to determine applicability. If information is lacking or the analysis is incomplete, the application will be determined incomplete.

Information on NSPS/NESHAP applicability determinations that may be useful to applicants is available on EPA's website: Clean Air Act Applicability Determination Index - Compliance Monitoring - EPA. Another useful source of information is the preamble to the regulation which is published in the Federal Register on the date the regulation was promulgated. Federal Registers may be found online at Federal Register: Main Page. The date the regulation was published in the Federal Register is included in the footnotes of the regulation.

5. DEQ will assist in identifying the applicable requirements that the applicant must include in the application, but will not perform the required technical or regulatory analysis on the applicant's behalf. Applicants should contact the Air Quality Permit Hotline (1-877-573-7648) to discuss NSPS/NESHAP regulatory analysis requirements or to schedule a meeting.

6. Facilities should also document a non-applicability determination on federal air regulations which may appear to apply to the facility but actually do not. A non-applicability determination will avoid future confusion and expedite the air permit application review. If you conduct an applicability determination and find that your activity is not NSPS or NESHAP affected facility, an analysis should be submitted using the methods described above.

7. **It is not sufficient to simply provide a copy of the NSPS or NESHAP. The applicant must address each section of the regulation as described above and as shown in the example that is provided.**

Non-Applicability Determination

40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (a.k.a. Maximum Achievable Control Technology (MACT))

~~Example of a NSPS Regulatory Analysis~~

[Title 40, Part 63]
[61 FR 27140, May 30, 1996, as amended at 71 FR 29799, May 24, 2006; 76 FR 22597, Apr. 21, 2011]
From the U.S. Government Printing Office via GPO Access
[CITE: 40CFR60]

TITLE 40--PROTECTION OF ENVIRONMENT

CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

PART 60_STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES--
Table of Contents

SUBPART KK—NATIONAL EMISSION STANDARDS FOR THE PRINTING AND PUBLISHING INDUSTRY

Sec.63.820 Applicability.

(a) The provisions of this subpart apply to:

(1) Each new and existing facility that is a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated, and

Yellowstone Plastics will not be a major source of any hazardous air pollutants (HAPS) for their flexographic printing process or other facility equipment's so is not affected by this section.

(2) Each new and existing facility at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated for which the owner or operator chooses to commit to and meets the criteria of paragraphs (a)(2)(i) and (ii) of this section for purposes of establishing the facility to be an area source of HAP with respect to this subpart. A facility which establishes area source status through some other mechanism, as described in paragraph (a)(7) of this section, is not subject to the provisions of this subpart.

(i) Use less than 9.1 Mg (10 tons) per each rolling 12-month period of each HAP at the facility, including materials used for source categories or purposes other than printing and publishing, and

(ii) Use less than 22.7 Mg (25 tons) per each rolling 12-month period of any combination of HAP at the facility, including materials used for source categories or purposes other than printing and publishing.

Yellowstone Plastics well remain well below the singular 10 ton HAP limit as well as the 25 ton rolling annual combined HAP limit so is not affected by Subpart KK.

Yellowstone Plastics VOC Calculations

Andrew Nimrod
6/13/2016

RTO Data

RTO FLOW	50,000	SCFM
Est. Existing VOC to RTO[1,3]	163	lb/hr
New Press Est. VOC to RTO[4]	45	lb/hr
Uncontrolled VOC[2]	907	TPYu
Controlled VOC from RTO[1]	18.1	TPYc
Total VOC from RTO[1,3]	17.8	TPY
Density of Air	0.075	lb/ft3
MWave. Air	28.9	lb/ft3

1. Amount is for 5 existing presses based off of 2015 data + 1 new press.
2. Uncontrolled and Controlled VOC's based off of Max Operating 24/7/52.
3. Total VOC to RTO based off of actual planned Operation 24/7/51.
4. Projected new press VOC output.

	Estimated use %	40%	30%	30%		
Projected Ink Use	Ink Description	HI Opaque White Ink	1190 Pro Black Ink	Polyamide Pro Black Ink	**Projected Reducing Solvent Use**	**Projected Cleaning Solvent Use**
lbs	Ink VOC %	27.24%	54.69%	46.47%	lbs	lbs
635,330	lbs of VOC's	69,226	104,239	88,571	793,087	180,000
730,630	lbs of VOC's	79,609	119,874	101,857	912,050	207,000
Annual Operating Schedule 24/7/51 (hrs):				8,568		
Max. Annual Operating Schedule 24/7/52 (hrs):				8,736		

1. Projected Ink use is based off of 2015 total Ink and solvent usage then adding 10% for business growth.

$$\text{Concentration (PPM)}=10^6 * \left(\frac{VOC\ lb/hr}{RTO\ SCFM * \rho_{air} * 60 * \frac{MW_{voc}}{MW_{air}}}\right)$$

MSDS Constituents

CAS #	Chemical Name	MW	VOC %	LEL %	UEL %	AI (F)	FP (F)	BP (F)	Pre-VOC (lb/hr)	Post VOC (lb/hr)		h (BTU/lb)
1190 Pro Black									**11.9**	**13.7**		
71-23-8	Propyl Alcohol, n-	60.095	26.95	2.2	13.7	775	74	207	3.22	3.70		13,480
64-17-5	Ethanol	46.0494	11.22	3.3	19	685	55	173	1.34	1.54		12,830
109-60-4	Propyl Acetate, n-	102.1317	6.72	1.7	8	842	55	215	0.80	0.92		17,430
108-21-4	Isopropyl Acetate	102.1317	4.8	1.8	8	860	36	194	0.57	0.66		9,420
67-63-0	Isopropanol	60.095	2.01	2	12.7	750	53	181	0.24	0.28		12,000
Polyamide Proc Black									**10.1**	**11.7**		
71-23-8	Propyl Alcohol, n-	60.095	38.29	2.2	13.7	775	74	207	3.88	4.46		13,480
109-60-4	Propyl Acetate, n-	102.1317	4.8	1.7	8	842	55	215	0.49	0.56		17,430
68526-86-3	Alcohol	200.36	1.1			500	252	482	0.11	0.13		17,430
108-21-4	Isopropyl Acetate	102.14	0.63	1.8	7.8	860	35	192	0.06	0.07		17,430
64-17-5	Ethanol	46.0494	0.58	3.3	19	685	55	173	0.06	0.07		12,830
High Opaque White									**7.92**	**9.11**		
71-23-8	Propyl Alcohol, n-	60.095	15.24	2.2	13.7	775	74	207	1.21	1.39		13,480
142-82-5	Heptane	100.21	10	1.1	6.7	433	25	209	0.79	0.91		12,000
64-17-5	Ethanol	46.0494	1.43	3.3	19	685	55	173	0.11	0.13		12,830
109-60-4	Propyl Acetate, n-	102.1317	0.5	1.7	8	842	55	215	0.04	0.05		17,430
Cleaning Solvent - AMPAC #4									**20.6**	**23.7**		
71-23-8	Propyl Alcohol, n-	60.095	30	2.2	13.7	775	74	207	6.18	7.11		13,480
64-17-5	Ethanol	46.0494	22	3.3	19	685	55	173	4.53	5.21		12,830
109-60-4	Propyl Acetate, n-	102.1317	20	1.7	8	842	55	215	4.12	4.74		17,430
141-78-6	Ethyl Acetate	88.1	2.1	2.2	9	800	24	171	0.43	0.50		
1330-20-7	Xylene	106.158	2	1	7	867	75	281	0.41	0.47		17,760
67-56-1	Methanol	32.04	1.12	6	36.5	867	53.6	148	0.23	0.27		9,078
Reducing Solvent - 80/20									**90.3**	**103.8**		
71-23-8	Propyl Alcohol, n-	60.095	80	2.2	13.7	775	74	207	72.22	83.05		13,480
109-60-4	Propyl Acetate, n-	102.1317	20	1.7	8	842	55	215	18.05	20.76		17,430
Reducing Solvent - 90/10									**0.5**	**0.6**		
71-23-8	Propyl Alcohol, n-	60.095	90	2.2	13.7	775	74	207	0.46	0.53		13,480
109-60-4	Propyl Acetate, n-	102.1317	10	1.7	8	842	55	215	0.05	0.06		17,430

Toxic Air Pollutants				
Substance	**Pre-Project Emission Rate**	**Post Project Emission Rate**	**Change in ER**	**EL**
	lb/hr	lbs/hr	lbs/hr	lbs/hr
Methanol	0.231	0.005	-0.23	17
Xylene	0.412	0.009	-0.40	29
Ethanol	6.04	0.14	-5.90	125
N-Propanol	87.17	2.00	-85.16	33.3
N-Propyl Acetate	23.55	0.54	-23.01	56
Ethyl Acetate	0.433	0.010	-0.42	93.3
Isopropanol	0.240	0.006	-0.23	65.3
Isopropyl Acetate	0.64	0.015	-0.62	69.3
Heptane	0.79	0.018	-0.77	109

Notes:

1. Pre project emission rate are based off of ink usage for the past 12 months, but without existing oxidizer

Hazardous Air Pollutants		
Substance	**Emission Rate**	**ER**
	lb/hr	Ton/yr
Methanol	0.231	1.01
Xylene	0.412	1.80

*Substances above are per EPA Clean Air Act List of HAPS

Yellowstone Plastics, Inc.
RTO PTE Emission Inventory
50,000 SCFM RTO
Idaho Falls, ID
5-16-16

RTO Natural Gas Products of Combustion (POC) Emissions

Source	Max Heat Input MM BTU/hr	Hourly Natural Gas Use MM Ft^3/hr.	Annual Natural Gas Use MM Ft^3/yr	EMISSIONS											
				Total PM		Sulfur dioxide		Nitrogen oxides		Carbon monoxide		TOC Nonmethane VOC		CO2e	
				lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
RTO Max Capacity(cold startup)	8.60	0.00860	0.41	0.07	0.00	0.01	0.00	0.86	0.02	0.72	0.02	0.05	0.001	1,007	4,009
RTO Normal Operation	3.90	0.00390	31.04	0.03	0.12	0.00	0.01	0.39	1.55	0.33	1.30	0.02	0.09	457	1,818
RTO Idle Mode	1.61	0.00161	1.17	0.01	0.00	0.00	0.00	0.16	0.06	0.14	0.05	0.01	0.003	189	751
			Totals:		0.12		0.01		1.57		1.32		0.09		5,827

Notes:
1. The following natural gas combustion factors from AP-42 were used to calculate emissions:
   a. Natural gas heating value = 1000 BTU/cu. ft.
   b. Natural gas emission factors (lb/MM ft^3):

Combuster Size (MMBtu/hr Heat Input)	Total Particulate Matter PM	Sulfur dioxide SO2	Nitrogen oxides NOx	Carbon monoxide CO	TOC
0.3 - <100	**7.6**	**0.6**	**100**	**84**	**5.5**
<0.3	7.6	0.6	94	40	5.5

NOTES:
1. SO2 based on a sulfur content of natural gas of 2000 gr/MMscf
2. NOx expressed as NO2. Emissions based on full load conditions.

2. The following formulas were used to calculate emissions:

   a. MM cu.ft. annual gas use = actual from gas bills
   b. Emissions (lb/hr) = (Emission factor x (MM BTU/hr / 1000 BTU/cu. ft)
   c. Emissions (TPY) = (Emission factor x MM cu. ft. annual gas use)/2000lb/ton

3. Cold StartUp Operating Hours =	48	hr/yr	Cold startup assumed 6 times per year max 8 hours per startup.
4. Idle Mode Operating Hours =	728	hr/yr	Unit on Idle assuming at least 2 hours per day.
5. Max Operating Hours =	7,960	hr/yr	24/7/52 - Idle Mode - Cold StartUp operating hours.

CO_2 = Annual CO_2 mass emissions from natural gas combustion (lbs).
Gas = Annual natural gas usage, from billing records (therms).

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of this subpart (kg CO_2/mmBtu).

0.1 = Conversion factor from therms to mmBtu

1×10^{-3} = Conversion factor from kilograms to metric tons.

(iii) If natural gas consumption is obtained from billing records and fuel usage is expressed in mmBtu, use Equation C-1b.

$$CO_2 = 1 \times 10^{-3} * Gas * EF \qquad \text{(Eq. C-1b)} \qquad CO_2 \frac{tons}{yr} = \frac{Gas * EF}{2000}$$

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel type	Default high heat value	Default emission factor	Default emission factor
Natural gas	mmBtu/scf	kg CO_2/mmBtu	lb CO_2/mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06	117.13

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Title 40 → Chapter I → Subchapter C → Part 98 → Subpart C → Appendix

Browse Next

Title 40: Protection of Environment
PART 98—MANDATORY GREENHOUSE GAS REPORTING
Subpart C—General Stationary Fuel Combustion Sources

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel type	Default high heat value	Default CO_2 emission factor
Coal and coke	mmBtu/short ton	kg CO_2/mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.8	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.9
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO_2/mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06

[1]The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

[2]Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

[3]Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.

[4]Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HHV and the default CO_2 emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C-5) or Tier 4.

[5]Use the following formula to calculate a wet basis HHV for use in Equation C-1: $HHV_w = ((100 - M)/100)*HHV_d$ where HHV_w = wet basis HHV, M = moisture content (percent) and HHVd = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013]

Yellowstone Plastics, Inc.
Facility Wide PTE Emission Inventory
50,000 SCFM RTO
Idaho Falls, ID
5-16-16

Natural Gas Products of Combustion Emissions

Source	Max Heat Input MM BTU/hr	Hourly Natural Gas Use MM Ft^3/hr.	Annual Natural Gas Use MM Ft^3/yr	EMISSIONS											
				Total PM		Sulfur dioxide		Nitrogen oxides		Carbon monoxide		TOC Nonmethane VOC		CO2e	
				lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
RTO	1.45	0.00145	12.69	0.0110	0.0482	0.00087	0.00381	0.1449	0.6346	0.1217	0.5331	0.0080	0.0349	174	763

Notes:
1. The following natural gas combustion factors from AP-42 were used to calculate emissions:
   a. Natural gas heating value = 1000 BTU/cu. ft.
   b. Natural gas emission factors (lb/MM ft^3):

Combuster Size (MMBtu/hr Heat Input)	Total Particulate Matter PM	Sulfur dioxide SO2	Nitrogen oxides NOx	Carbon monoxide CO	TOC
0.3 - <100	**7.6**	**0.6**	**100**	**84**	**5.5**
<0.3	7.6	0.6	94	40	5.5

NOTES:
1. SO2 based on a sulfur content of natural gas of 2000 gr/MMscf
2. NOx expressed as NO2. Emissions based on full load conditions.

2. The following formulas were used to calculate emissions:

   a. MM cu.ft. annual gas use = actual from gas bills
   b. Emissions (lb/hr) = (Emission factor x (MM BTU/hr / 1000 BTU/cu. ft)
   c. Emissions (TPY) = (Emission factor x MM cu. ft. annual gas use)/2000lb/ton

3. Max Annual Operating Hours = 8760 hr/yr

NG Utility Bill Summary	Therms	MMBTU	MMBTU/hr
Jan-06	17,806	1,780.6	2.65
Feb-06	19,790	1,979.0	2.94
Mar-06	15,077	1,507.7	2.24
Apr-06	9,026	902.6	1.34
May-06	3,996	399.6	0.59
Jun-06	2,300	230.0	0.34
Jul-06	2,235	223.5	0.33
Aug-06	6,421	642.1	0.96
Sep-06	9,279	927.9	1.38
Oct-06	9,308	930.8	1.39
Nov-06	9,995	999.5	1.49
Dec-06	11,607	1,160.7	1.73
Average:	**9,737**	**973.7**	**1.4**

Note: Utility Bill information is from 2006 to capture Pre CMM oxidizer plant wide gas usage.

4. The following formulas were used to calculate emissions:

   a. MM cu.ft. annual gas use = actual from gas bills
   b. Emissions (lb/hr) = (Emission factor x (MM BTU/hr / 1000 BTU/cu. ft)
   c. Emissions (TPY) = (Emission factor x MM cu. ft. annual gas use)/2000lb/ton

3. Cold StartUp Operating Hours = 48 hr/yr — Cold startup assumed 6 times per year max 8 hours per startup.
4. Idle Mode Operating Hours = 728 hr/yr — Unit on Idle assuming at least 2 hours per day.
5. Max Operating Hours = 7,960 hr/yr — 24/7/52 - Idle Mode - Cold StartUp operating hours.

CO_2 = Annual CO_2 mass emissions from natural gas combustion (lbs).
Gas = Annual natural gas usage, from billing records (therms).

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C-1 of this subpart (kg CO_2/mmBtu).

0.1 = Conversion factor from therms to mmBtu

1×10^{-3} = Conversion factor from kilograms to metric tons.

(iii) If natural gas consumption is obtained from billing records and fuel usage is expressed in mmBtu, use Equation C-1b.

$CO_2 = 1 \times 10^{-3} * Gas * EF$ (Eq. C-1b) $CO_2 \frac{tons}{yr} = \frac{Gas * EF}{2000}$

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel type	GWP	CO_2e emission factor	CO_2e emission factor	CO_2e emission factor
		kg/mmBtu	lb/mmBtu	lb/MMscf
Methane	25	0.001	0.055	56.54
Carbon Dioxide	1	53.02	116.89	120,160
Nitrous oxide	298	0.0001	0.066	67.85

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel type	Default high heat value	Default CO_2 emission factor
Coal and coke	mmBtu/short ton	kg CO_2/mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.8	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.9
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO_2/mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06

[1]The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

[2]Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

[3]Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.

[4]Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HHV and the default CO_2 emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C-5) or Tier 4.

[5]Use the following formula to calculate a wet basis HHV for use in Equation C-1: $HHV_w = ((100 - M)/100)*HHV_d$ where HHV_w = wet basis HHV, M = moisture content (percent) and HHV_d = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013]

Methane and Nitrous Oxide Emission Formulas

(c) Calculation of CH_4 and N_2O emissions from stationary combustion sources. You must calculate annual CH_4 and N_2O mass emissions only for units that are required to report CO_2 emissions using the calculation methodologies of this subpart and for only those fuels that are listed in Table C-2 of this subpart.

(1) Use Equation C-8 of this section to estimate CH_4 and N_2O emissions for any fuels for which you use the Tier 1 or Tier 3 calculation methodologies for CO_2, except when natural gas usage in units of therms or mmBtu is obtained from gas billing records. In that case, use Equation C-8a in paragraph (c)(1)(i) of this section or Equation C-8b in paragraph (c)(1)(ii) of this section (as applicable). For Equation C-8, use the same values for fuel consumption that you use for the Tier 1 or Tier 3 calculation.

(i) Use Equation C-8a to calculate CH_4 and N_2O emissions when natural gas usage is obtained from gas billing records in units of therms.

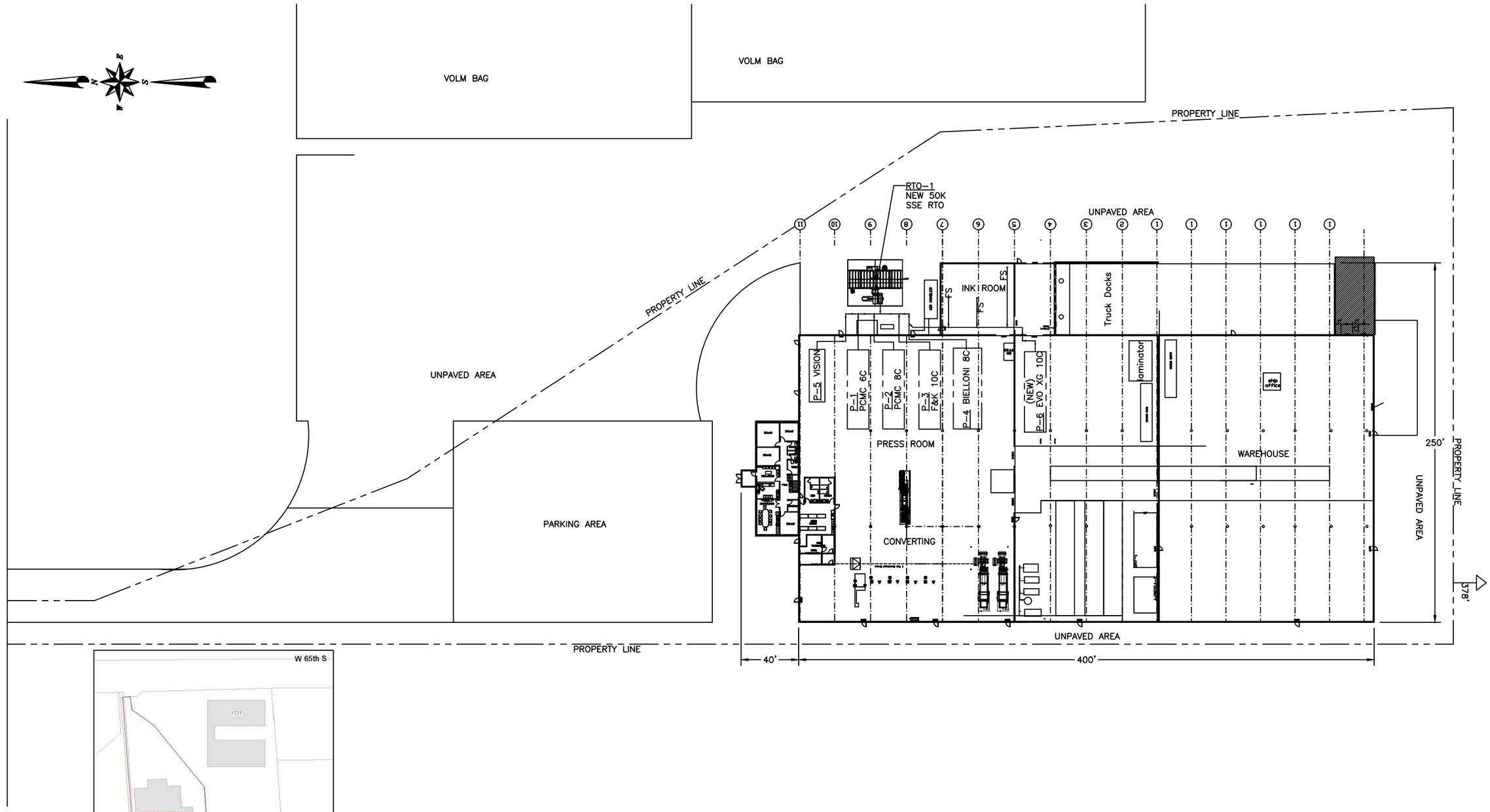
$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * 0.1 * EF \qquad \text{(Eq. C-8a)}$$

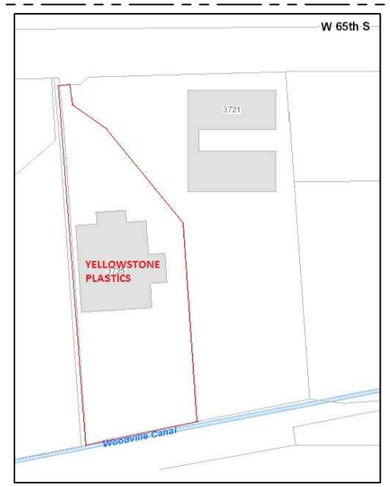
where:

CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of natural gas (metric tons).
Fuel = Annual natural gas usage, from gas billing records (therms).
EF = Fuel-specific default emission factor for CH_4 or N_2O, from Table C-2 of this subpart (kg CH_4 or N_2O per mmBtu).
0.1 = Conversion factor from therms to mmBtu
1×10^{-3} = Conversion factor from kilograms to metric tons.

Table C-2 to Subpart C of Part 98—Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Fuel type	Default CH_4 emission factor (kg CH_4/mmBtu)	Default N_2O emission factor (kg N_2O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1×10^{-02}	1.6×10^{-03}
Natural Gas	1.0×10^{-03}	1.0×10^{-04}





NOTES:
1. SOUTH PROPERTY LINE IS ~378' FROM BUILDING.

REV	DESCRIPTION	DATE	BY	CK'D

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SHIP & SHORE ENVIRONMENTAL, INC.
2474 N. PALM DRIVE – SIGNAL HILL, CA 90755
Tel: (562) 997-0233 – Fax: (562) 997-0604

YELLOWSTONE PLASTICS, INC.

DRAWING FILE NAME	SCALE	DRAWN BY
2016-563-A01	1/32"=1'-0"	AN
		APPROVED BY

TITLE: PLOT PLAN

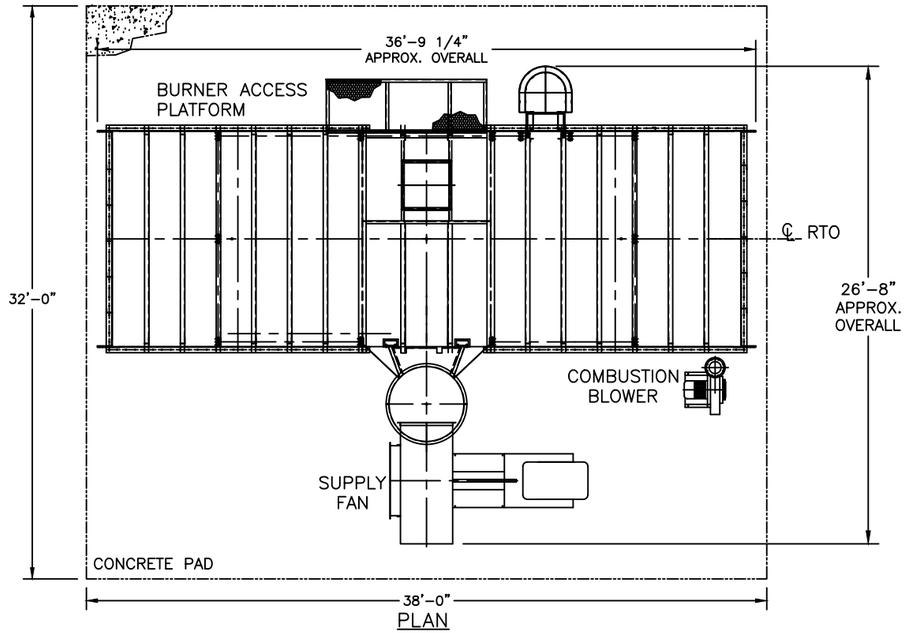
DATE	DRAWING NUMBER	SHT.	REV.
5-23-16	2016-563-A01	of	0

NOTES:

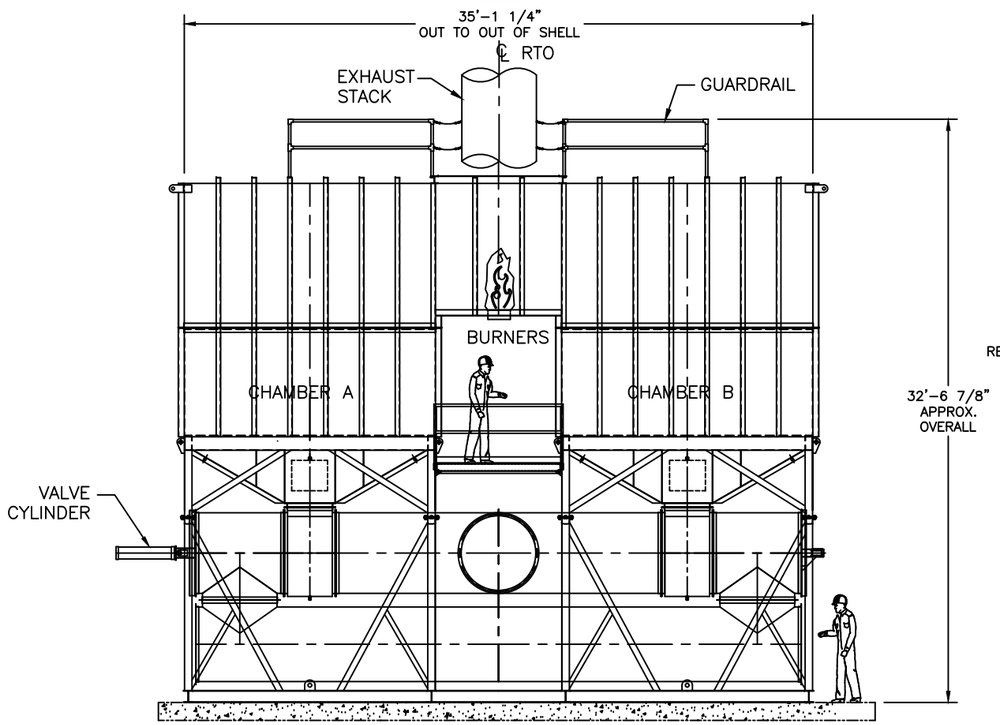
1. APPROXIMATE WEIGHT OF COMPLETED REGENERATIVE THERMAL OXIDIZER, FANS AND MISC. COMPONENTS 187,000 LBs.
2. ALL WEIGHTS & DIMENSIONS ARE APPROXIMATE AND SUBJECT TO CHANGE DURING DESIGN PHASE.

FOR PROPOSAL PURPOSES ONLY

SSE2016-049
4-27-2016

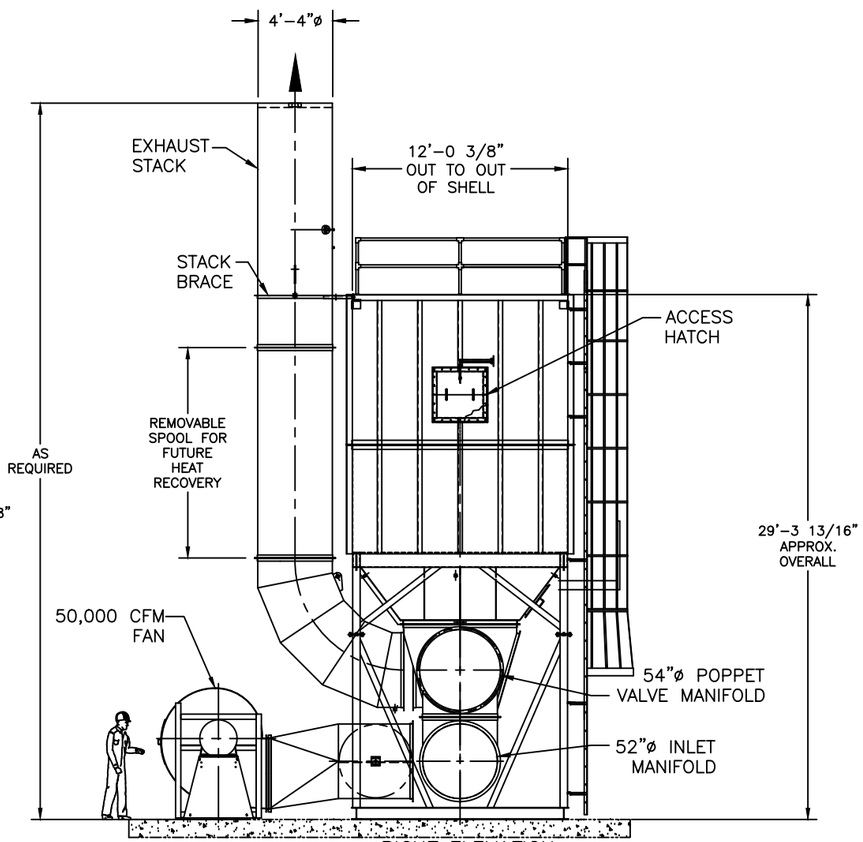


PLAN



ELEVATION

MAIN FAN & COMBUSTION BLOWER NOT SHOWN FOR CLARITY



RIGHT ELEVATION

COMBUSTION FAN NOT SHOWN FOR CLARITY

NOTE: EXISTING CONCRETE PAD IS 32'W X 38'L.

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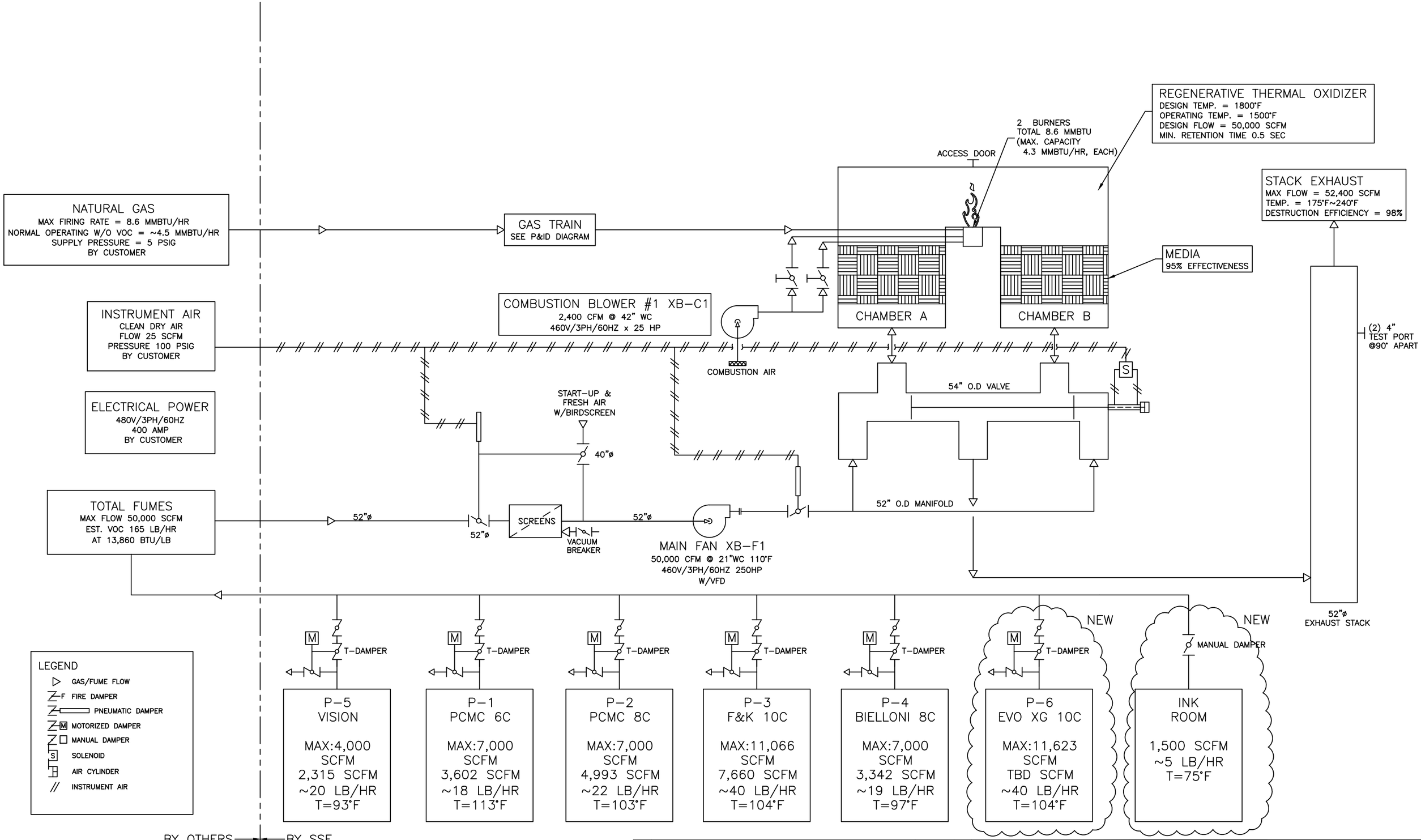
SSE2016-049-M02	1/4"=1'-0"	A.N.
		APPROVED BY

TITLE: GENERAL ARRANGEMENT 50,000 CFM RTO

DATE	DRAWING NUMBER	SHT.	REV.
4-5-16	SSE2016-049-M02	1 of 1	0

2008-274-M02r6-sht1, 2013-402-M02r3, 2014-478-M02r1



PRELIMINARY

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2016-563-PFD	NONE	APPROVED BY	

TITLE: PROCESS FLOW DIAGRAM

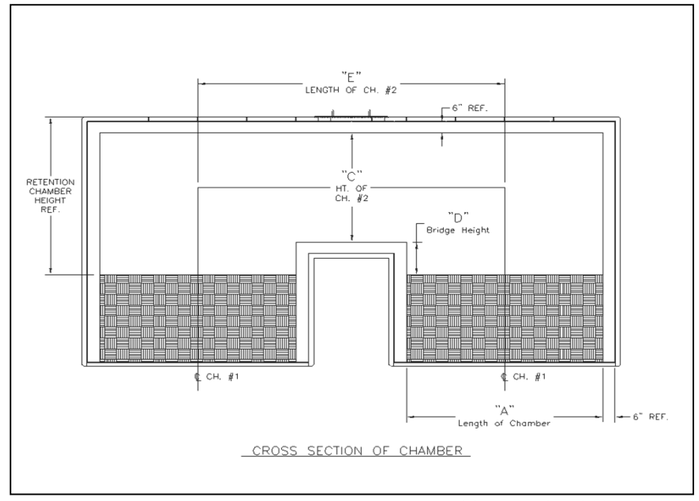
DATE	DRAWING NUMBER	SHT.	REV.
5-19-16	2016-563-PFD	OF	0

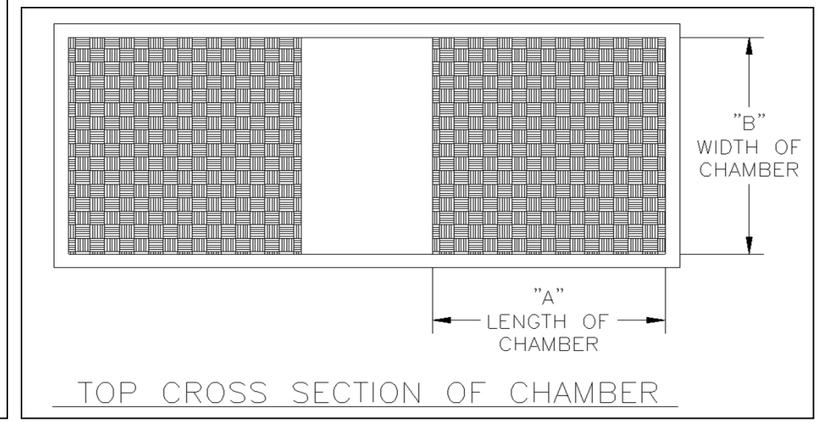
2007-246-PFDr1, 2008-266-PFDr1 2009-298-PFD

RTO RETENTION TIME CALCULATION

CUSTOMER: Yellowstone Plastics
JOB#: SSE2016-049
DATE: 4/27/2016

Flow	50,000	SCFM
Operating Temp (T)	1,500	F
LENGTH "A"	13.00	ft
Width "B"	11.00	ft
Height Chamber 2 "C"	6.00	ft
Height of Bridge "D"	1.50	ft
Number of chamber 1	2.00	
Length Chamber 2 "E"	21.00	





CHAMBER 1

Flow ACFM = SCFM *(460+T)/530	184,906	ACFM
Hydraulic Dia = (2 *A*B)/(A+B)	11.92	ft
Area = π*(Hydraulic Dia/2)^2	111.53	sq ft
Velocity = Flow ACFM/Area	1,658	ft/min
Length Chamber 1 = C/2+D	4.50	ft
Retention Time = Distance/velocity * 60 sec/min	0.163	sec
Total Ret. Time Chamber 1 = Nbr of chamber 1 * retention time	0.326	sec

CHAMBER 2

Flow ACFM = SCFM *(460+T)/530	184,906	ACFM
Hydraulic Dia = (2 *B*C)/(B+C)	7.76	ft
Area = π*(Hydraulic Dia/2)^2	47.35	sq ft
Velocity = Flow ACFM/Area	3,905	ft/min
Length Chamber 2 = "E"	21.00	ft
Retention Time = Distance/velocity * 60 sec/min	0.323	

Total Retention Time = Chamber 1 + Chamber 2 = 0.648 Sec

24

MATERIAL SAFETY DATA SHEET

Sun Chemical Corporation
12963 PARK STREET
SANTA FE SPRINGS, CA 90670

MSDS Distribution: (562) 946-2326
Regulatory Information: (201) 933-4500
Emergency Call Chemtrec: (800) 424-9300 US
Outside US (703) 527-3887
Medical Emergency: (703) 527-3887

1. PRODUCT IDENTIFICATION

Product Name	SSNFS1111861
Product Description	HIGH OPAQUE WHITE
Product Category	Solvent Flexo Film Ink
MSDS Identification No.	000001083831
MSDS Date	07/18/06

2. COMPOSITION (Hazardous Components)

The components listed below are identified as hazardous chemicals based upon the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS Number	Concentration (wt %)
n-Propyl Alcohol	71-23-8	15.24
Heptane	142-82-5	10.00
Ethanol	64-17-5	1.43

For further information on the individual hazardous component(s) listed above, please refer to the Toxicological Information section of the MSDS (Section 11).

3. PRODUCT HAZARDS IDENTIFICATION

Emergency Overview

Flammable Liquid and Vapor.
Material may be irritating to skin and eyes.
May cause respiratory tract irritation.
Aspiration hazard if swallowed.
May cause central nervous system effects.

—— continued on next page ——

Potential Health Effects

Inhalation and dermal contact are expected to be the primary routes of occupational exposure. The following statements are based upon an assessment of the health effects associated with the components present in this product mixture.

Eye

This product may cause mild to moderate eye irritation. Direct contact or excessive exposure to vapors may cause redness, tearing and stinging.

Skin

This product may cause mild to moderate skin irritation. Prolonged or repeated exposure may result in contact dermatitis which is characterized by redness, itching, drying and/or cracking of the skin.

Inhalation

Inhalation of excessive quantities of vapors may cause irritation of the nose, throat and respiratory tract, as well as headache, nausea, dizziness, loss of coordination and fatigue.

Ingestion

Ingestion of this product may cause gastrointestinal irritation, headache, nausea, vomiting, diarrhea, dizziness, loss of coordination and fatigue.

This product contains component(s) that may present an aspiration hazard. Small amounts of this liquid drawn into the lungs during ingestion or vomiting may cause pulmonary injury.

Chronic Effects

Chronic overexposure may result in liver abnormalities.

Medical Conditions Aggravated by Exposure

Preexisting skin disorders may be aggravated by exposure to this product.

4. FIRST AID MEASURES

Eye Contact

In case of direct contact, flush eyes with clean water for at least 15 minutes. Seek medical attention if irritation or redness develops and persists.

Skin Contact

Remove contaminated clothing. Wash affected area thoroughly with soap and water. Seek medical attention if irritation or redness develops and persists.

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Inhalation

Remove affected person away from source of exposure and into fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If breathing has stopped give artificial respiration. Seek immediate medical attention.

Ingestion

Ingestion is an unlikely route of exposure under normal industrial conditions. However if appreciable quantities of this product are accidentally swallowed, do not induce vomiting. Seek immediate medical attention. Aspiration of liquid into the lungs can be fatal. If vomiting occurs, keep head below hips to prevent aspiration.

5. FIRE FIGHTING MEASURES

Flash Point (degree F)	Less than 73 F (Closed Cup)
Flash Point Category (OSHA/NFPA)	IB - Flammable
Lower Flammability Limit in Air (% by Vol)	1.0

NOTE : Flash point value/category has been derived from testing of products of similar composition.

Extinguishing Media

Extinguish with a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.

Fire Fighting Instructions

The use of self-contained breathing apparatus is recommended for firefighters. Water spray may be used to cool containers exposed to heat near flame. Avoid spreading burning liquid with water used for cooling purposes.

Fire and Explosion Hazards

This product is (OSHA) flammable and may be ignited by heat, sparks, flame or static electricity. Closed containers may build up pressure and rupture when subjected to extreme heat. Vapors are heavier than air, may travel along the ground and may be moved by ventilation; flashback along vapor trail may occur.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Keep unnecessary personnel away from spill area. Ventilate area of spill; use appropriate personal protective equipment.

For large spills, a multipurpose foam may be used to suppress vapors. Contain the spill by diking with sand or other inert material. Keep out of drains, sewers or waterways. Transfer product to suitable containers for recovery or disposal. Use explosion proof equipment and non-sparking tools. Do not flush area with water. If necessary, follow emergency response procedures.

For small spills, do not flush with water; use an inert absorbant material.

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7. HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool, dry and away from all sources of ignition. Protect from freezing. Bond and ground all equipment when transferring material from one container to another. Use and store this product with adequate ventilation. Use appropriate protective equipment when handling this product and maintain good personal hygiene practices.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Provide explosion proof general and/or local exhaust ventilation to maintain airborne contaminants below the established exposure limits. It is suggested that a source of clean water be made available in work area for flushing eyes and skin.

Personal Protective Equipment

Eye / Face Protection

The use of chemical splash goggles or safety glasses is recommended to prevent eye contact.

Skin Protection

The use of impermeable, solvent resistant gloves is advised to prevent skin contact. Use chemical resistant apron if splash hazard exists.

Respiratory Protection

If vapor concentration does not exceed established exposure limits, respiratory protection is not normally required.

If vapor concentration exceeds established exposure limits, use a NIOSH/ MSHA approved respirator. Respirators should be selected and used in accordance with OSHA directive 29 CFR 1910.134.

Established Exposure Guidelines

Chemical Name	ACGIH-TLV		OSHA-PEL		
	TWA	STEL	TWA	STEL	
n-Propyl Alcohol	200.00 ppm	250.00 ppm	200.00 ppm	250.00 ppm	(skin)
Heptane	400.00 ppm	500.00 ppm	400.00 ppm	500.00 ppm	
Ethanol	1000.00 ppm	N/E	1000.00 ppm	N/E	

N/E = Not Established

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point / Range (degree F)	200 F - 207 F
Typical Density (lbs/gal)	11.86
Vapor Density (excluding water) vs. Air	Heavier
Evaporation Rate (vs. Butyl Acetate)	Faster
Appearance	White Liquid
Volatile Organic Compounds (wt%)	27.24

10. STABILITY AND REACTIVITY

Stability

Stable. Hazardous polymerization will not occur.

Conditions to Avoid

Keep product away from heat, sparks, and open flames.

Incompatibility

This product is incompatible with strong acids or bases and oxidizing agents.

Hazardous Decomposition Products

By high heat and fire: carbon dioxide, carbon monoxide and/or oxides of nitrogen and sulfur.

11. TOXICOLOGY OF COMPONENTS

Information pertaining to the health effects and toxicity of the "pure" form of the hazardous components identified in Section 2 is presented below. This information reflects the known hazards associated with the component and may not reflect that of the purchased material due to concentration (dilution) effects. Review and interpretation by your Hazard Communication Department is recommended.

n-Propyl Alcohol (15.24 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritaion may be severe after repeated or prolonged exposure, causing drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue).

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Heptane (10.00 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritation may be severe after repeated or prolonged exposure, causing drying and cracking of skin. This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, vomiting and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue).

Ethanol (1.43 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritation may be severe after repeated or prolonged exposure, causing drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue). Repeated, intentional mis-use or ingestion can cause liver damage. The International Agency for Research on Cancer (IARC) has determined that chronic exposure to ethanol through human consumption via the drinking of alcoholic beverages can cause cancer. The relevance of this finding to the exposure in the industrial environment is uncertain.

12. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with local, county, state and federal environmental regulations. Do not introduce this product directly into public sewer systems.

Since emptied containers may retain product residues, all hazard precautions given in this data sheet should be observed.

13. REGULATORY INFORMATION

Toxic Substances Control Act (TSCA)

The chemical components of this product are listed or have been registered for inclusion on the Section 8(B) Chemical Substance Inventory List (40 CFR 710).

This product contains a chemical which is reportable under the export notification requirements of TSCA, Section 12(B).

EPCRA Section 313 Supplier Notification

This product does not contain any substances in quantities which must be reported under the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

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Clean Air Act Amendment (HAPs)

This product does not contain any substances which are defined as Hazardous Air Pollutants under Title III of the Clean Air Act Amendments of 1990.

Clean Air Act Amendment (ODC's)

This product does not contain and is not manufactured with any of the ozone depleting chemicals listed under Section 602 of the Clean Air Amendments of 1990.

California Proposition 65

This product does not contain any chemicals which are defined by the state of California to cause cancer and/or reproductive toxicity.

CONEG

This product is certified to be in full compliance with CONEG Model Toxics Legislation for packaging and packaging components.

OSHA Hazard Communication Label for Product

WARNING!

FLAMMABLE LIQUID AND VAPOR
MAY CAUSE SKIN AND EYE IRRITATION
MAY CAUSE RESPIRATORY TRACT IRRITATION
ASPIRATION HAZARD IF SWALLOWED
MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS
Please refer to the MSDS for more details.
Keep away from heat, sparks and flame.
Keep containers closed.
Use with adequate ventilation.
Avoid contact with eyes, skin and clothing.
Use appropriate personal protective equipment.
Avoid breathing vapor.
Wash thoroughly after handling.
FIRST AID : In case of contact, flush eyes or skin with plenty of water. Remove contaminated clothing. Seek medical attention if irritation develops or persists. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention.
IN CASE OF FIRE, use a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.
Empty containers may retain product residues, all hazard precautions given on this label should be observed.
DO NOT REMOVE THIS LABEL.

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14. ADDITIONAL COMMENTS

Hazardous Materials Information System (HMIS)

Health 1 **Flammability** 3 **Reactivity** 0

NOTICE : These ratings are intended only for the immediate and general identification of acute hazards. Sun Chemical is providing this information on a voluntary basis as a guide for our customers. The use and interpretation of this information may vary from company to company. All information contained in this data sheet should be considered in order to adequately deal with the safe handling of this material.

Revision Date

03/08/06

The information presented in this data sheet represents a compilation of information generated from our suppliers and other recognized sources of scientific evidence and chemical information. To the best of our knowledge and belief, it is accurate and reliable as of the date of issue. However, no warranty, express or implied, including any warranty of merchantability, fitness for any use, or any other guarantee is offered or implied regarding the accuracy of such data, the results to be obtained from the use thereof, the safety of this product, or the hazards connected with the use of this material. Since the conditions of handling and use of this material are beyond our control, Sun Chemical shall assume no liability for damages incurred by the use of the material. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability and completeness of this information, the safety measures necessary to handle this product, and the actions needed to comply with all applicable Federal, State, and Local Legislation.

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VOLATILE COMPONENT INFORMATION

		US EPA Designate
A. Product Density:		
1.)	11.86 LB Product /gal Product	=(Dc)s
B. Nonvolatile Content:		
1.)	72.75 Weight percent of nonvolatiles in product	=(Wn)s
2.)	49.43 Volume percent of nonvolatiles in product	=(Vn)s
3.)	17.47 Density, lb nonvolatiles/gal nonvolatiles	=(Dn)s
C. Volatiles:		
1.)	27.25 Weight percent of total volatiles in product	=(Wv)s
2.)	6.38 Density, lb volatiles/gal volatiles	=(Dv)s
D. Water Content:		
1.)	0.02 Weight percent of water in product	=(Ww)s
2.)	0.03 Volume percent of water in product	=(Vw)s
E. Organic Volatiles, (VOCs):		
1.)	27.24 Weight percent of organic volatiles in product	=(Wo)s
2.)	50.64 Volume percent of organic volatiles in product	=(Vo)s
3.)	6.38 Density, lb organic volatiles /gal organic volatiles	=(Do)s
4.)	99.96 Weight percent of VOCs in total volatiles	=(Wo)v
5.)	99.96 Volume percent of VOCs in total volatiles	=(Vo)v

F. VOC Content in Product Expressed in Other Terms:

1.) a.) 3.23 lb VOC / gal Product
1.) b.) 387.13 grams VOC / liter Product
2.) a.) 3.23 lb VOC / gal Product less water & exempt solvent
2.) b.) 387.21 grams VOC / liter Product less water & exempt solvent
3.) 6.54 lb VOC / gal total nonvolatiles

G. Volatiles: (all VOCs, HAPs, water & ammonia)

Ingredient	CAS Number	Weight Percent	Density (lb/gal)
n-Propyl Alcohol	71-23-8	15.24	6.71
Heptane	142-82-5	10.00	5.87
Ethanol	64-17-5	1.43	6.62
n-Propyl Acetate	109-60-4	0.50	7.40
Non HAP/SARA Organic Volatiles		0.07	7.75

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Water	7732-18-5	0.02	8.34

NOTE : The term Volatile Organic Compounds (VOC) refers only to volatile organic materials as defined by the US EPA and does not include water, ammonia, acetone or other exempt solvents. Unless otherwise stated, the VOC values reported above are based on materials of construction.

MATERIAL SAFETY DATA SHEET

14

Sun Chemical Corporation
12963 PARK STREET
SANTA FE SPRINGS, CA 90670

MSDS Distribution: (562) 946-2326
Regulatory Information: (201) 933-4500
Emergency Call Chemtrec: (800) 424-9300 US
Outside US (703) 527-3887
Medical Emergency: (703) 527-3887

1. PRODUCT IDENTIFICATION

Product Name	LOMFS9111004
Product Description	POLYAMIDE PROC BLACK
Product Category	Solvent Flexo Plastic Ink
MSDS Identification No.	000001068116
MSDS Date	05/25/06

2. COMPOSITION (Hazardous Components)

The components listed below are identified as hazardous chemicals based upon the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS Number	Concentration (wt %)
n-Propyl Alcohol	71-23-8	38.29
n-Propyl Acetate	109-60-4	4.80

For further information on the individual hazardous component(s) listed above, please refer to the Toxicological Information section of the MSDS (Section 11).

3. PRODUCT HAZARDS IDENTIFICATION

Emergency Overview

Flammable Liquid and Vapor.
Material may be irritating to skin and eyes.
May cause respiratory tract irritation.
May cause central nervous system effects.

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Potential Health Effects

Inhalation and dermal contact are expected to be the primary routes of occupational exposure. The following statements are based upon an assessment of the health effects associated with the components present in this product mixture.

Eye

This product may cause mild to moderate eye irritation. Direct contact or excessive exposure to vapors may cause redness, tearing and stinging.

Skin

This product may cause mild to moderate skin irritation. Prolonged or repeated exposure may result in contact dermatitis which is characterized by redness, itching, drying and/or cracking of the skin.

Inhalation

Inhalation of excessive quantities of vapors may cause irritation of the nose, throat and respiratory tract, as well as headache, nausea, dizziness, loss of coordination and fatigue.

Ingestion

Ingestion of this product may cause gastrointestinal irritation, headache, nausea, vomiting, diarrhea, dizziness, loss of coordination and fatigue.

Chronic Effects

Chronic overexposure may result in liver abnormalities.

Medical Conditions Aggravated by Exposure

Preexisting skin disorders may be aggravated by exposure to this product.

4. FIRST AID MEASURES

Eye Contact

In case of direct contact, flush eyes with clean water for at least 15 minutes. Seek medical attention if irritation or redness develops and persists.

Skin Contact

Remove contaminated clothing. Wash affected area thoroughly with soap and water. Seek medical attention if irritation or redness develops and persists.

Inhalation

Remove affected person away from source of exposure and into fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If breathing has stopped give artificial respiration. Seek immediate medical attention.

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Ingestion

Ingestion is an unlikely route of exposure under normal industrial conditions. However, if appreciable quantities of this product are accidentally swallowed, seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point (degree F)	Equal or greater that 73 F and less than 100 F (Closed Cup)
Flash Point Category (OSHA/NFPA)	IC - Flammable
Lower Flammability Limit in Air (% by Vol)	1.7

NOTE : Flash point value/category has been derived from testing of products of similar composition.

Extinguishing Media

Extinguish with a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.

Fire Fighting Instructions

The use of self-contained breathing apparatus is recommended for firefighters. Water spray may be used to cool containers exposed to heat near flame. Avoid spreading burning liquid with water used for cooling purposes.

Fire and Explosion Hazards

This product is (OSHA) flammable and may be ignited by heat, sparks, flame or static electricity. Closed containers may build up pressure and rupture when subjected to extreme heat. Vapors are heavier than air, may travel along the ground and may be moved by ventilation; flashback along vapor trail may occur.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Keep unnecessary personnel away from spill area. Ventilate area of spill; use appropriate personal protective equipment.

For large spills, a multipurpose foam may be used to suppress vapors. Contain the spill by diking with sand or other inert material. Keep out of drains, sewers or waterways. Transfer product to suitable containers for recovery or disposal. Use explosion proof equipment and non-sparking tools. Do not flush area with water. If necessary, follow emergency response procedures.

For small spills, do not flush with water; use an inert absorbant material.

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7. HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool, dry and away from all sources of ignition. Protect from freezing. Bond and ground all equipment when transferring material from one container to another. Use and store this product with adequate ventilation. Use appropriate protective equipment when handling this product and maintain good personal hygiene practices.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Provide explosion proof general and/or local exhaust ventilation to maintain airborne contaminants below the established exposure limits. It is suggested that a source of clean water be made available in work area for flushing eyes and skin.

Personal Protective Equipment

Eye / Face Protection

The use of chemical splash goggles or safety glasses is recommended to prevent eye contact.

Skin Protection

The use of impermeable, solvent resistant gloves is advised to prevent skin contact. Use chemical resistant apron if splash hazard exists.

Respiratory Protection

If vapor concentration does not exceed established exposure limits, respiratory protection is not normally required.

If vapor concentration exceeds established exposure limits, use a NIOSH/ MSHA approved respirator. Respirators should be selected and used in accordance with OSHA directive 29 CFR 1910.134.

Established Exposure Guidelines

Chemical Name	ACGIH-TLV		OSHA-PEL		
	TWA	STEL	TWA	STEL	
n-Propyl Alcohol	200.00 ppm	250.00 ppm	200.00 ppm	250.00 ppm	(skin)
n-Propyl Acetate	200.00 ppm	250.00 ppm	200.00 ppm	250.00 ppm	

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point / Range (degree F)	207 F - 215 F
Typical Density (lbs/gal)	8.32
Vapor Density (excluding water) vs. Air	Heavier
Evaporation Rate (vs. Butyl Acetate)	Faster
Appearance	Black Viscous Liquid
Volatile Organic Compounds (wt%)	46.47

10. STABILITY AND REACTIVITY

Stability

Stable. Hazardous polymerization will not occur.

Conditions to Avoid

Keep product away from heat, sparks, and open flames.

Incompatibility

This product is incompatible with strong acids or bases and oxidizing agents.

Hazardous Decomposition Products

By high heat and fire: carbon dioxide, carbon monoxide and/or oxides of nitrogen and sulfur.

11. TOXICOLOGY OF COMPONENTS

Information pertaining to the health effects and toxicity of the "pure" form of the hazardous components identified in Section 2 is presented below. This information reflects the known hazards associated with the component and may not reflect that of the purchased material due to concentration (dilution) effects. Review and interpretation by your Hazard Communication Department is recommended.

n-Propyl Alcohol (38.29 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritaion may be severe after repeated or prolonged exposure, causing drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue).

n-Propyl Acetate (4.80 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Repeated or prolonged exposure may cause drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting

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and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue). Repeated overexposure may result in liver damage.

12. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with local, county, state and federal environmental regulations. Do not introduce this product directly into public sewer systems.

Since emptied containers may retain product residues, all hazard precautions given in this data sheet should be observed.

13. REGULATORY INFORMATION

Toxic Substances Control Act (TSCA)

The chemical components of this product are listed or have been registered for inclusion on the Section 8(B) Chemical Substance Inventory List (40 CFR 710).

This product contains a chemical which is reportable under the export notification requirements of TSCA, Section 12(B).

EPCRA Section 313 Supplier Notification

This product does not contain any substances in quantities which must be reported under the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

Clean Air Act Amendment (HAPs)

This product does not contain any substances which are defined as Hazardous Air Pollutants under Title III of the Clean Air Act Amendments of 1990.

Clean Air Act Amendment (ODC's)

This product does not contain and is not manufactured with any of the ozone depleting chemicals listed under Section 602 of the Clean Air Amendments of 1990.

California Proposition 65

This product does not contain any chemicals which are defined by the state of California to cause cancer and/or reproductive toxicity.

CONEG

This product is certified to be in full compliance with CONEG Model Toxics Legislation for packaging and packaging components.

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OSHA Hazard Communication Label for Product
WARNING!

FLAMMABLE LIQUID AND VAPOR
MAY CAUSE SKIN AND EYE IRRITATION
MAY CAUSE RESPIRATORY TRACT IRRITATION
MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS
Please refer to the MSDS for more details.
Keep away from heat, sparks and flame.
Keep containers closed.
Use with adequate ventilation.
Avoid contact with eyes, skin and clothing.
Use appropriate personal protective equipment.
Avoid breathing vapor.
Wash thoroughly after handling.
FIRST AID : In case of contact, flush eyes or skin with plenty of water. Remove contaminated clothing. Seek medical attention if irritation develops or persists. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention.
IN CASE OF FIRE, use a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.
Empty containers may retain product residues, all hazard precautions given on this label should be observed.
DO NOT REMOVE THIS LABEL.

14. ADDITIONAL COMMENTS

Hazardous Materials Information System (HMIS)

Health 1 **Flammability** 3 **Reactivity** 0

NOTICE : These ratings are intended only for the immediate and general identification of acute hazards. Sun Chemical is providing this information on a voluntary basis as a guide for our customers. The use and interpretation of this information may vary from company to company. All information contained in this data sheet should be considered in order to adequately deal with the safe handling of this material.

Revision Date

04/20/05

The information presented in this data sheet represents a compilation of information generated from our suppliers and other recognized sources of scientific evidence and chemical information. To the best of our knowledge and belief, it is accurate and reliable as of the date of issue. However, no warranty, express or implied, including any warranty of merchantability, fitness for any use, or any other guarantee is offered or implied regarding the accuracy of such data, the results to be obtained from the use thereof, the safety of this product, or the hazards connected with the use of this material. Since the conditions of handling and use of this material are beyond our control, Sun Chemical shall assume no

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liability for damages incurred by the use of the material. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability and completeness of this information, the safety measures necessary to handle this product, and the actions needed to comply with all applicable Federal, State, and Local Legislation.

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VOLATILE COMPONENT INFORMATION

	US EPA Designate
A. Product Density:	
1.) 8.32 LB Product /gal Product	=(Dc)s
B. Nonvolatile Content:	
1.) 53.03 Weight percent of nonvolatiles in product	=(Wn)s
2.) 42.55 Volume percent of nonvolatiles in product	=(Vn)s
3.) 10.37 Density, lb nonvolatiles/gal nonvolatiles	=(Dn)s
C. Volatiles:	
1.) 46.97 Weight percent of total volatiles in product	=(Wv)s
2.) 6.80 Density, lb volatiles/gal volatiles	=(Dv)s
D. Water Content:	
1.) 0.51 Weight percent of water in product	=(Ww)s
2.) 0.51 Volume percent of water in product	=(Vw)s
E. Organic Volatiles, (VOCs):	
1.) 46.47 Weight percent of organic volatiles in product	=(Wo)s
2.) 57.00 Volume percent of organic volatiles in product	=(Vo)s
3.) 6.78 Density, lb organic volatiles /gal organic volatiles	=(Do)s
4.) 98.94 Weight percent of VOCs in total volatiles	=(Wo)v
5.) 99.23 Volume percent of VOCs in total volatiles	=(Vo)v

F. VOC Content in Product Expressed in Other Terms:

1.) a.) 3.87 lb VOC / gal Product
1.) b.) 463.18 grams VOC / liter Product
2.) a.) 3.89 lb VOC / gal Product less water & exempt solvent
2.) b.) 465.52 grams VOC / liter Product less water & exempt solvent
3.) 9.09 lb VOC / gal total nonvolatiles

G. Volatiles: (all VOCs, HAPs, water & ammonia)

Ingredient	CAS Number	Weight Percent	Density (lb/gal)
n-Propyl Alcohol	71-23-8	38.29	6.71
n-Propyl Acetate	109-60-4	4.80	7.40
Alcohol	68526-86-3	1.10	7.09
Isopropyl Acetate	108-21-4	0.63	7.26
Ethanol	64-17-5	0.58	6.62

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Heptane	142-82-5	0.40	5.87
Sweetened Middle Distillate	24741-86-2	0.34	6.74
Isopropyl Alcohol	67-63-0	0.20	6.55
Light Hydrotreated Petroleum Distillate	64742-47-8	0.12	6.76
Non HAP/SARA Organic Volatiles		0.00	7.75
Water	7732-18-5	0.51	8.34

NOTE : The term Volatile Organic Compounds (VOC) refers only to volatile organic materials as defined by the US EPA and does not include water, ammonia, acetone or other exempt solvents. Unless otherwise stated, the VOC values reported above are based on materials of construction.

MATERIAL SAFETY DATA SHEET

35

Sun Chemical Corporation
12963 PARK STREET
SANTA FE SPRINGS, CA 90670

MSDS Distribution: (562) 946-2326
Regulatory Information: (201) 933-4500
Emergency Call Chemtrec: (800) 424-9300 US
Outside US (703) 527-3887
Medical Emergency: (703) 527-3887

1. PRODUCT IDENTIFICATION

Product Name	LFPFS9116805
Product Description	1190 PRO BLACK
Product Category	Solvent Flexo Film Ink
MSDS Identification No.	000001148702
MSDS Date	02/23/07

2. COMPOSITION (Hazardous Components)

The components listed below are identified as hazardous chemicals based upon the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS Number	Concentration (wt %)
n-Propyl Alcohol	71-23-8	26.95
Ethanol	64-17-5	11.22
n-Propyl Acetate	109-60-4	6.72
Isopropyl Acetate	108-21-4	4.80
Nitrocellulose Resin	9004-70-0	~~3.36~~
Dipropylene Glycol Methyl Ether	34590-94-8	3.00
Isopropyl Alcohol	67-63-0	2.01

For further information on the individual hazardous component(s) listed above, please refer to the Toxicological Information section of the MSDS (Section 11).

3. PRODUCT HAZARDS IDENTIFICATION

Emergency Overview

Flammable Liquid and Vapor.
Material may be irritating to skin and eyes.
May cause respiratory tract irritation.
May cause central nervous system effects.

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Potential Health Effects

Inhalation and dermal contact are expected to be the primary routes of occupational exposure. The following statements are based upon an assessment of the health effects associated with the components present in this product mixture.

Eye

This product may cause mild to moderate eye irritation. Direct contact or excessive exposure to vapors may cause redness, tearing and stinging.

Skin

This product may cause mild to moderate skin irritation. Prolonged or repeated exposure may result in contact dermatitis which is characterized by redness, itching, drying and/or cracking of the skin.

Inhalation

Inhalation of excessive quantities of vapors may cause irritation of the nose, throat and respiratory tract, as well as headache, nausea, dizziness, loss of coordination and fatigue.

Ingestion

Ingestion of this product may cause gastrointestinal irritation, headache, nausea, vomiting, diarrhea, dizziness, loss of coordination and fatigue.

Chronic Effects

Chronic overexposure may result in liver abnormalities.

Medical Conditions Aggravated by Exposure

Preexisting skin disorders may be aggravated by exposure to this product.

Impaired respiratory and liver functions from preexisting medical conditions may be aggravated by exposure to this product.

4. FIRST AID MEASURES

Eye Contact

In case of direct contact, flush eyes with clean water for at least 15 minutes. Seek medical attention if irritation or redness develops and persists.

Skin Contact

Remove contaminated clothing. Wash affected area thoroughly with soap and water. Seek medical attention if irritation or redness develops and persists.

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Inhalation

Remove affected person away from source of exposure and into fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If breathing has stopped give artificial respiration. Seek immediate medical attention.

Ingestion

Ingestion is an unlikely route of exposure under normal industrial conditions. However, if appreciable quantities of this product are accidentally swallowed, seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point (degree F)	Less than 73 F (Closed Cup)
Flash Point Category (OSHA/NFPA)	IB - Flammable
Lower Flammability Limit in Air (% by Vol)	1.7

NOTE : Flash point value/category has been derived from testing of products of similar composition.

Extinguishing Media

Extinguish with a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.

Fire Fighting Instructions

The use of self-contained breathing apparatus is recommended for firefighters. Water spray may be used to cool containers exposed to heat near flame. Avoid spreading burning liquid with water used for cooling purposes.

Fire and Explosion Hazards

This product is (OSHA) flammable and may be ignited by heat, sparks, flame or static electricity. Closed containers may build up pressure and rupture when subjected to extreme heat. Vapors are heavier than air, may travel along the ground and may be moved by ventilation; flashback along vapor trail may occur.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Keep unnecessary personnel away from spill area. Ventilate area of spill; use appropriate personal protective equipment.

For large spills, a multipurpose foam may be used to suppress vapors. Contain the spill by diking with sand or other inert material. Keep out of drains, sewers or waterways. Transfer product to suitable containers for recovery or disposal. Use explosion proof equipment and non-sparking tools. Do not flush area with water. If necessary, follow emergency response procedures.

For small spills, do not flush with water; use an inert absorbant material.

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7. HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool, dry and away from all sources of ignition. Protect from freezing. Bond and ground all equipment when transferring material from one container to another. Use and store this product with adequate ventilation. Use appropriate protective equipment when handling this product and maintain good personal hygiene practices.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Provide explosion proof general and/or local exhaust ventilation to maintain airborne contaminants below the established exposure limits. It is suggested that a source of clean water be made available in work area for flushing eyes and skin.

Personal Protective Equipment

Eye / Face Protection

The use of chemical splash goggles or safety glasses is recommended to prevent eye contact.

Skin Protection

The use of impermeable, solvent resistant gloves is advised to prevent skin contact. Use chemical resistant apron if splash hazard exists.

Respiratory Protection

If vapor concentration does not exceed established exposure limits, respiratory protection is not normally required.

If vapor concentration exceeds established exposure limits, use a NIOSH/ MSHA approved respirator. Respirators should be selected and used in accordance with OSHA directive 29 CFR 1910.134.

Established Exposure Guidelines

Chemical Name	ACGIH-TLV		OSHA-PEL		
	TWA	STEL	TWA	STEL	
n-Propyl Alcohol	200.00 ppm	250.00 ppm	200.00 ppm	250.00 ppm	(skin)
Ethanol	1000.00 ppm	N/E	1000.00 ppm	N/E	
n-Propyl Acetate	200.00 ppm	250.00 ppm	200.00 ppm	250.00 ppm	
Isopropyl Acetate	250.00 ppm	310.00 ppm	250.00 ppm	310.00 ppm	
Dipropylene Glycol Methyl Ether	100.00 ppm	150.00 ppm	100.00 ppm	150.00 ppm	(skin)

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Isopropyl Alcohol	400.00 ppm	500.00 ppm	400.00 ppm	500.00 ppm

N/E = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point / Range (degree F)	173 F - 374 F
Typical Density (lbs/gal)	8.16
Vapor Density (excluding water) vs. Air	Heavier
Evaporation Rate (vs. Butyl Acetate)	Faster
Appearance	Black Liquid
Volatile Organic Compounds (wt%)	54.69

10. STABILITY AND REACTIVITY

Stability

Stable. Hazardous polymerization will not occur.

Conditions to Avoid

Keep product away from heat, sparks, and open flames.

Incompatibility

This product is incompatible with strong acids or bases and oxidizing agents.

Hazardous Decomposition Products

By high heat and fire: carbon dioxide, carbon monoxide and/or oxides of nitrogen and sulfur.

11. TOXICOLOGY OF COMPONENTS

Information pertaining to the health effects and toxicity of the "pure" form of the hazardous components identified in Section 2 is presented below. This information reflects the known hazards associated with the component and may not reflect that of the purchased material due to concentration (dilution) effects. Review and interpretation by your Hazard Communication Department is recommended.

n-Propyl Alcohol (26.95 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritaion may be severe after repeated or prolonged exposure, causing drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive

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and respiratory tracts, vomiting and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue).

Ethanol (11.22 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritation may be severe after repeated or prolonged exposure, causing drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue). Repeated, intentional mis-use or ingestion can cause liver damage. The International Agency for Research on Cancer (IARC) has determined that chronic exposure to ethanol through human consumption via the drinking of alcoholic beverages can cause cancer. The relevance of this finding to the exposure in the industrial environment is uncertain.

n-Propyl Acetate (6.72 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Repeated or prolonged exposure may cause drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue). Repeated overexposure may result in liver damage.

Isopropyl Acetate (4.80 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Repeated or prolonged exposure may cause drying and cracking of skin. Other effects of exposure may include irritation of the nose, throat, digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue).

Nitrocellulose Resin (3.36 %)

This material is a flammable solid in a dry state. It will be less flammable in a solvated liquid mixture.

Dipropylene Glycol Methyl Ether (3.00 %)

May cause eye and skin irritation. Eye contact may cause stinging, watering and redness. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, and vomiting. Ingestion of excessive amounts may cause nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue).

Isopropyl Alcohol (2.01 %)

Causes eye and skin irritation. Eye contact may cause stinging, watering and redness. Skin contact may cause redness and burning of skin. Skin irritation may be severe after repeated or prolonged exposure, causing drying and cracking of skin. Other effects of overexposure may include irritation of the nose and throat, irritation of the digestive and respiratory tracts, vomiting and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue).

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12. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with local, county, state and federal environmental regulations. Do not introduce this product directly into public sewer systems.

Since emptied containers may retain product residues, all hazard precautions given in this data sheet should be observed.

13. REGULATORY INFORMATION

Toxic Substances Control Act (TSCA)

The chemical components of this product are listed or have been registered for inclusion on the Section 8(B) Chemical Substance Inventory List (40 CFR 710).

This product contains a chemical which is reportable under the export notification requirements of TSCA, Section 12(B).

EPCRA Section 313 Supplier Notification

This product does not contain any substances in quantities which must be reported under the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

Clean Air Act Amendment (HAPs)

This product does not contain any substances which are defined as Hazardous Air Pollutants under Title III of the Clean Air Act Amendments of 1990.

Clean Air Act Amendment (ODC's)

This product does not contain and is not manufactured with any of the ozone depleting chemicals listed under Section 602 of the Clean Air Amendments of 1990.

California Proposition 65

This product does not contain any chemicals which are defined by the state of California to cause cancer and/or reproductive toxicity.

CONEG

This product is certified to be in full compliance with CONEG Model Toxics Legislation for packaging and packaging components.

OSHA Hazard Communication Label for Product
WARNING!

FLAMMABLE LIQUID AND VAPOR
MAY CAUSE SKIN AND EYE IRRITATION
MAY CAUSE RESPIRATORY TRACT IRRITATION
MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS

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Please refer to the MSDS for more details.
Keep away from heat, sparks and flame.
Keep containers closed.
Use with adequate ventilation.
Avoid contact with eyes, skin and clothing.
Use appropriate personal protective equipment.
Avoid breathing vapor.
Wash thoroughly after handling.
FIRST AID : In case of contact, flush eyes or skin with plenty of water. Remove contaminated clothing. Seek medical attention if irritation develops or persists. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical attention.
IN CASE OF FIRE, use a multipurpose fire fighting foam, water spray, dry chemical or carbon dioxide.
Empty containers may retain product residues, all hazard precautions given on this label should be observed.
DO NOT REMOVE THIS LABEL.

14. ADDITIONAL COMMENTS

Hazardous Materials Information System (HMIS)

Health 2 **Flammability** 3 **Reactivity** 0

NOTICE : These ratings are intended only for the immediate and general identification of acute hazards. Sun Chemical is providing this information on a voluntary basis as a guide for our customers. The use and interpretation of this information may vary from company to company. All information contained in this data sheet should be considered in order to adequately deal with the safe handling of this material.

Revision Date

01/06/07

The information presented in this data sheet represents a compilation of information generated from our suppliers and other recognized sources of scientific evidence and chemical information. To the best of our knowledge and belief, it is accurate and reliable as of the date of issue. However, no warranty, express or implied, including any warranty of merchantability, fitness for any use, or any other guarantee is offered or implied regarding the accuracy of such data, the results to be obtained from the use thereof, the safety of this product, or the hazards connected with the use of this material. Since the conditions of handling and use of this material are beyond our control, Sun Chemical shall assume no liability for damages incurred by the use of the material. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability and completeness of this information, the safety measures necessary to handle this product, and the actions needed to comply with all applicable Federal, State, and Local Legislation.

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VOLATILE COMPONENT INFORMATION

	US EPA Designate
A. Product Density:	
1.) 8.16 LB Product /gal Product	=(Dc)s
B. Nonvolatile Content:	
1.) 44.23 Weight percent of nonvolatiles in product	=(Wn)s
2.) 33.95 Volume percent of nonvolatiles in product	=(Vn)s
3.) 10.63 Density, lb nonvolatiles/gal nonvolatiles	=(Dn)s
C. Volatiles:	
1.) 55.77 Weight percent of total volatiles in product	=(Wv)s
2.) 6.89 Density, lb volatiles/gal volatiles	=(Dv)s
D. Water Content:	
1.) 1.08 Weight percent of water in product	=(Ww)s
2.) 1.06 Volume percent of water in product	=(Vw)s
E. Organic Volatiles, (VOCs):	
1.) 54.69 Weight percent of organic volatiles in product	=(Wo)s
2.) 65.01 Volume percent of organic volatiles in product	=(Vo)s
3.) 6.87 Density, lb organic volatiles /gal organic volatiles	=(Do)s
4.) 98.06 Weight percent of VOCs in total volatiles	=(Wo)v
5.) 98.35 Volume percent of VOCs in total volatiles	=(Vo)v

F. VOC Content in Product Expressed in Other Terms:

1.) a.) 4.47 lb VOC / gal Product
1.) b.) 534.91 grams VOC / liter Product
2.) a.) 4.51 lb VOC / gal Product less water & exempt solvent
2.) b.) 540.61 grams VOC / liter Product less water & exempt solvent
3.) 13.15 lb VOC / gal total nonvolatiles

G. Volatiles: (all VOCs, HAPs, water & ammonia)

Ingredient	CAS Number	Weight Percent	Density (lb/gal)
n-Propyl Alcohol	71-23-8	26.95	6.71
Ethanol	64-17-5	11.22	6.62
n-Propyl Acetate	109-60-4	6.72	7.40
Isopropyl Acetate	108-21-4	4.80	7.26
Dipropylene Glycol Methyl Ether	34590-94-8	3.00	7.92

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Isopropyl Alcohol	67-63-0	2.01	6.55
Non HAP/SARA Organic Volatiles		0.00	7.75
Water	7732-18-5	1.08	8.34

NOTE : The term Volatile Organic Compounds (VOC) refers only to volatile organic materials as defined by the US EPA and does not include water, ammonia, acetone or other exempt solvents. Unless otherwise stated, the VOC values reported above are based on materials of construction.

Univar USA Inc Safety Data Sheet

SDS No:

Version No:

Order No:

3075 Highland Pkwy, Ste 200, Downers Grove, IL 60515
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300

Univar
3075 Highland Pkwy STE 200
Downers Grove, IL 60515
425-889-3400

SAFETY DATA SHEET

1. Identification

Product identifier: -BLEND N-PROPYL ALCOHOL/N-PROPYL ACETATE SOLUTION

Other means of identification

Synonyms: Blend NPAL/NPAC Solution

SDS number: 000100000161

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Emergency telephone number:For emergency assistance Involving chemicals

call CHEMTREC day or night at: 1-800-424-9300. CHEMTREC INTERNATIONAL Tel# 703-527-3887

2. Hazard(s) identification

Hazard classification

Physical hazards

Flammable liquids	Category 2

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Label elements

Hazard symbol

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Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Aspiration hazard if swallowed - can enter lungs and cause damage. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing and wash before reuse. In case of fire: Use ... to extinguish.
Storage	Store in a closed container. Store in well-ventilated place. Store in a dry place.
Disposal	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

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Other hazards which do not result in GHS classification Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
Propyl Alcohol		71-23-8	>=50 - <=90%
Propyl acetate		109-60-4	>=5 - <=50%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Ingestion: Never give liquid to an unconscious person. Get medical attention immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Eye contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General fire hazards: No data available.

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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use: Carbon dioxide, foam, powder.
Unsuitable extinguishing media:	No data available.
Specific hazards arising from the chemical:	No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	No data available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	All equipment used when handling the product must be grounded. Eliminate sources of ignition. Absorb spillage with non-combustible, absorbent material. Dike for later disposal.

7. Handling and storage

Precautions for safe handling:	Use personal protective equipment as required. Container must be kept tightly closed. Flammable/combustible - Keep away from oxidizers, heat and flames. Use only in well-ventilated areas. Avoid breathing dust/fume/gas/mist/vapors/spray.
Conditions for safe storage, including any incompatibilities:	No data available.

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8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
Propyl Alcohol	TWA	100 ppm	US. ACGIH Threshold Limit Values (03 2013)
	REL	200 ppm 500 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	250 ppm 625 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	200 ppm 500 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	250 ppm 625 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm 500 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm 500 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	250 ppm 625 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	230 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	246 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	94 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	TWA PEL	200 ppm 500 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	250 ppm 625	US. California Code of Regulations,

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		mg/m3	Title 8, Section 5155. Airborne Contaminants (02 2012)
Propyl acetate	TWA	200 ppm	US. ACGIH Threshold Limit Values (03 2013)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (03 2013)
	REL	200 ppm 840 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	250 ppm 1,050 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	200 ppm 840 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	250 ppm 1,050 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm 840 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm 840 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	250 ppm 1,050 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	AN ESL	835 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	1,000 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	240 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	200 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	TWA PEL	200 ppm 840 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	250 ppm 1,050 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)

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Appropriate engineering controls	No data available.

Individual protection measures, such as personal protective equipment

General information:	No data available.
Eye/face protection:	No data available.
Skin protection	
Hand protection:	No data available.
Other:	No data available.
Respiratory protection:	No data available.
Hygiene measures:	No data available.

9. Physical and chemical properties

Physical state:	Liquid
Form:	No data available.
Color:	No data available.
Odor:	No data available.
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	96 - 101 °C
Flash Point:	12 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.

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Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical stability:	No data available.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	No data available.
Incompatible materials:	No data available.
Hazardous decomposition products:	No data available.

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix (): 2,077.777778 mg/kg

Dermal

Product: ATEmix (): 4,480 mg/kg

Inhalation

Product: No data available.

Specified substance(s):

Propyl Alcohol — LC 50 (Rat,): > 62.48 mg/l (, No) 2 (reliable with restrictions) LC 50 (Rat,): > 51.91 mg/l (, No) 2 (reliable with restrictions)

Repeated dose toxicity

Product: No data available.

Skin corrosion/irritation

Product: No data available.

Serious eye damage/eye irritation

Product: No data available.

Specified substance(s):

Propyl Alcohol

Exposure to 400 ppm for 3 to 5 minutes

Specified substance(s):

Propyl acetate Concentration of 200 ppm causes irritation of eyes

Respiratory or skin sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific target organ toxicity - single exposure

Product: No data available.

Specific target organ toxicity - repeated exposure

Product: No data available.

Aspiration hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Propyl Alcohol LC 50 (Fathead minnow (Pimephales promelas), 24 h): 5,600 - 10,000 mg/l

	Mortality LC 50 (Medaka, high-eyes (Oryzias latipes), 24 h): > 1,000 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 48 h): 3,200 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 48 h): 5,000 mg/l Mortality LC 50 (Medaka, high-eyes (Oryzias latipes), 48 h): 5,900 mg/l Mortality
Propyl acetate	LC 50 (Fathead minnow (Pimephales promelas), 24 h): 70 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 48 h): 66 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 96 h): 56 - 64 mg/l Mortality LC 50 (Carp (Leuciscus idus melanotus), 48 h): 194 mg/l Mortality LC 50 (Carp (Leuciscus idus melanotus), 48 h): 97 mg/l Mortality

Aquatic invertebrates

Product:	No data available.
Specified substance(s):	
Propyl Alcohol	EC 50 (Water flea (Daphnia magna), 24 h): 4,850 mg/l Intoxication LC 50 (Water flea (Daphnia magna), 24 h): 4,450 mg/l Mortality LC 50 (Great pond snail (Lymnaea stagnalis), 24 h): 10,000 mg/l Mortality LC 50 (Scud (Gammarus pulex), 48 h): 1,000 mg/l Mortality LC 50 (Great pond snail (Lymnaea stagnalis), 48 h): 6,500 mg/l Mortality
Propyl acetate	LC 50 (Water flea (Daphnia magna), 24 h): 511 mg/l Mortality LC 50 (Brine shrimp (Artemia salina), 24 h): 820 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: No data available.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Propyl Alcohol	Log Kow: 0.25
Propyl acetate	Log Kow: 1.23
Mobility in soil:	No data available.

Known or predicted distribution to environmental compartments

Propan-1-ol	No data available.
Propyl acetate	No data available.

Known or predicted distribution to environmental compartments

Propan-1-ol	No data available.
Propyl acetate	No data available.

13. Disposal considerations

Disposal instructions:	No data available.
Contaminated packaging:	No data available.

14. Transport information

DOT

UN number:	UN 1993
UN proper shipping name:	Flammable liquids, n.o.s.(Acetic acid, propyl ester, 1-Propyl Alcohol)
Transport hazard class(es)	
Class:	3
Label(s):	3
Packing group:	II
Marine Pollutant:	Not regulated.
Special precautions for user:	–

15. Regulatory information

US federal regulationsUS. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Propyl Alcohol	Reportable quantity: 100 lbs.
Propyl acetate	Reportable quantity: 100 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Not listed.

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SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
Propyl Alcohol	100 lbs.
Propyl acetate	100 lbs.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
Chemical identity	Threshold Planning Quantity
Propyl Alcohol	500 lbs
Propyl acetate	500 lbs

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Propyl Alcohol	Listed
Propyl acetate	Listed

US. Massachusetts RTK - Substance List

Propyl Alcohol	Listed
Propyl acetate	Listed

US. Pennsylvania RTK - Hazardous Substances

Propyl Alcohol	Listed
Propyl acetate	Listed

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.