



LEHMAN & GETZ
CONSULTING ENGINEERS

January 09, 2018

New York State Dept. of Environmental Conservation
Region 3
21 South Putt Corners Rd.
New Paltz, NY 12561

Att: Victoria Lawrence
Environmental Analyst, Division of Environmental Permits

Re: Proposed Brewery /Food Service
Tin Barn Brewing Inc.
Section 17, Block 1, Lot 20.2
19 Lake Station Road
Town of Warwick
L&G #2052

Dear Mrs. Lawrence,

We have revised the plans for the P/C/I SPDES Application for the Tin Barn Brewing site in response to your comments dated January 8, 2018. We provide the following responses to the comments (copy attached):

1. P/C/I SPDES (Surface Discharge)
 - a. Form NY-2C Supplement A has been filled out and is included for your review.
 - b. Form NY-2C Supplement B has been filled out and is included for your review, along with a map.
 - c. Effluent data is now shown on Form NY-2C.
 - d. The effluent flows are based on estimates of the brew processing utilizing 80% of the water and approximately 20% of the water going to the sewage disposal system equaling approximately 650 gpd. The 650 gpd is a very conservative volume based on cleaning the outside of the tanks, the floors and the loss of water through the brew process. We expect that the actual flow will be 50% less but our office feels its prudent to over design as the brew process is not an exact science. The 350 gpd used to clean the inside of the tanks and lines is conservative based on a few factors. The Mash Tuns would receive two rinses, one hot water cleaning, one caustic cleaning and one acid sanitation cleaning every day. The fermenters would receive one rinse, one caustic cleaning and one acid sanitation cleaning each day and the brite tanks would require two rinses, two caustic cleanings and two acid sanitations each day. The cleaning of all these tanks will never happen on one day but the sewage disposal system has been designed to accommodate the volume of water from all these cleanings happening all within one day.
 - i. The Mash Tun is approximately 475 gallons and the Boil Kettle is approximately 475 gallons.
 - ii. The flow requirements for cleaning the tanks is a maximum of 6 gpm.
 - iii. A garbage grinder will not be used at this facility.
2. Will be addressed by ERS Consultants.
3. Will be addressed by ERS Consultants.

Sincerely,

A handwritten signature in black ink, appearing to read "Jer Valentine", with a long, sweeping horizontal stroke extending to the right.

Lehman & Getz, P.C.
Jeremy Valentine

Cc: Dale Van Pamelen

State Pollutant Discharge Elimination System (SPDES)
INDUSTRIAL APPLICATION FORM NY-2C
For New Permits and Permit Modifications to Discharge Industrial Wastewater and Storm Water
Section I - Permittee and Facility Information

Please type or print the requested information.

1. Current Permit Information (leave blank if for new discharge)

SPDES Number:	DEC Number:
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2. Permit Action Requested: (Check applicable box)

<input checked="" type="checkbox"/> A NEW proposed discharge	<input type="checkbox"/> An EBPS INFORMATION REQUEST response	<input type="checkbox"/> A RENEWAL of an existing SPDES permit
<input type="checkbox"/> A MODIFICATION of the existing permit	<input type="checkbox"/> An EXISTING discharge currently without permit	

Does this request include an increase in the quantity of water discharged from your facility to the waters of the State?

☐ YES - Describe the increase:

☐ NO - Go to Item 3. below.

3. Permittee Name and Address

Name	Tin Barn Brewing Inc.	Attention	Lauren Van Pamelan
Street Address	19 Lake Station Road		
City or Village	Warwick	State	NY
		ZIP Code	10990


4. Facility Name, Address and Location

Name	Tin Barn Brewing Inc.				
Street Address	19 Lake Station Road		P.O. Box		
City or Village	Warwick	State	NY	ZIP Code	10990
Town	Warwick	County	Orange		
Telephone	(917) 902-1164	FAX		NYTM - E	551169
				NYTM - N	897367
Tax Map Info (New York City, Nassau County and Suffolk County only)					
Section	Block	Subblock	Lot		

5. Facility Contact Person

Name	Lauren Van Pamelan	Title	
Street Address	64 Highwood Road	P.O. Box	
City or Village	Oyster Bay	State	NY
		ZIP Code	11771
Telephone	(917) 902-1164	FAX	
		E-Mail or Internet	dale@tinbarn.com

6. Discharge Monitoring Report (DMR) Mailing Address

Mailing Name	Lauren Van Pamelan		
Street Address	19 Lake Station Road		P.O. Box
City or Village	Warwick	State	NY
		ZIP Code	10990
Telephone	(917) 902-1164	FAX	
		E-Mail or Internet	lauren@tinbarn.com
Name and Title of person responsible for signing DMRs		Signature	
Lauren Van Pamelan - Owner			

INDUSTRIAL APPLICATION FORM NY-2C

Section I - Permittee and Facility Information

Facility Name: Tin Barn Brewing Inc.	SPDES Number:
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7. Summarize the outfalls present at the facility:

Outfall Number	Receiving Water	Type of discharge
1	Unnamed tributary of the Wawayanda Creek	Process wastewater & domestic wastewater

8. Map of Facility and Discharge Locations:

Provide a detailed map showing the location of the facility, all buildings or structures present, wastewater discharge systems, outfall locations into receiving waters, nearby surface water bodies, water supply wells, and groundwater monitoring wells, and attach it to this application. Also submit proof, either by indication on the map or other documentation, that a right of way for the discharges exists from the facility property to a public right of way.

9. Water Flow Diagram:

See attached Water Flow Diagram

[illegible]

INDUSTRIAL APPLICATION FORM NY-2C **Section I - Permittee and Facility Information**

Facility Name: Tin Barn Brewing Inc.	SPDES Number:
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15. Facility Ownership: (Place an "X" in the appropriate box)

Corporate ☒ Sole Proprietorship ☐ Partnership ☐ Municipal ☐ State ☐ Federal ☐ Other ☐

Are any of the discharges applied for in this application on Indian lands?

Yes ☐ No ☐

16. List information on any other environmental permits for this facility:

Issuing Agency	Permit Type	Permit Number	Permit Status		
			Active	Applied for	Inactive
OCHD	Water supply system				

17. Laboratory Certification:

Were any of the analyses reported in Section III of this application performed by a contract laboratory or a consulting firm?

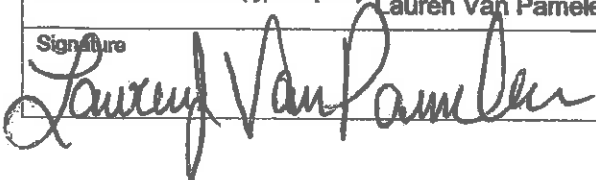
☐ YES - Complete the following table.

☐ NO - Go to Item 18 below.

Name of laboratory or consulting firm	Address	Telephone (area code and number)	Pollutants analyzed

18. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title (type or print) Lauren Van Pamelan - Owner		Date signed 04/12/16
Signature 	Telephone number (917) 902-1164	FAX number

Facility Name:	Tin Barn Brewing Inc.	SPDES Number:	
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Complete all information for those substances your facility has used, produced, stored, distributed, or otherwise disposed of in the past five (5) years at or above the threshold values listed in the instructions. Include substances manufactured at your facility, as well as any substances that you have reason to know or believe present in materials used or manufactured at your facility. Do not include chemicals used only in analytical laboratory work, or small quantities of routine household cleaning chemicals. Enter the name and CAS number for each of the chemicals listed in Tables 6-10 of the instructions, and the table number which lists the chemical. You may use ranges (e.g. 10-100 lbs., 100-1000 lbs., 1000-10000 lbs., etc.) to describe the quantities used on an annual basis as well as for the amount presently on hand. For those chemicals listed in Tables 6, 7, or 8 which are indicated as being potentially present in the discharge from one or more outfalls at the facility, indicate which outfalls may be affected in the appropriate column below, and include sampling results in Section III of this application for each of the potentially affected outfalls. Make additional copies of this sheet if necessary.

[illegible]

This completes Section I of the SPDES Industrial Application Form NY-2C. Section II, which requires specific information for each of the outfalls at your facility, and Section III, which requires sampling information for each of the outfalls at your facility, must also be completed and submitted with this application.

State Pollutant Discharge Elimination System (SPDES)
INDUSTRIAL APPLICATION FORM NY-2C
 For New Permits and Permit Modifications to Discharge Industrial Wastewater and Storm Water
Section II - Outfall Information

Please type or print the requested information.

Facility Name: Tin Barn Brewing Inc.	SPDES Number:
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1. Outfall Number and Location

Outfall No.: 1	Latitude 47 ° 17 '45.47"		Longitude 74 ° 17 '10.82'	Receiving Water Unnamed Wawayanda Tributary
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2. Type of Discharge and Discharge Rate (List all information applicable to this outfall)

	Volume/Flow	Units				Volume/Flow	Units		
		MGD	GPM	Other (specify)			MGD	GPM	Other (specify)
a. Process Wastewater	650			GPD	f. Noncontact Cooling Water				
b. Process Wastewater	350			GPD	g. Remediation System Discharge				
c. Process Wastewater					h. Boiler Blowdown				
d. Process Wastewater					i. Storm Water				
e. Contact Cooling Water					j. Sanitary Wastewater	2,800		GPD	
k. Other discharge (specify):									
l. Other discharge (specify):									

3. List process information for the Process Wastewater streams identified in 2.a-d above:

a. Name of the process contributing to the discharge			Process SIC code: 2 0 8 2
Describe the contributing process Cleaning outside of tanks and floors.	Category	Quantity per day	Units of measure
	Subcategory	650	GPD
b. Name of the process contributing to the discharge			Process SIC code: 2 0 8 2
Describe the contributing process Cleaning inside of tanks and lines.	Category	Quantity per day	Units of measure
	Subcategory	350	GPD
c. Name of the process contributing to the discharge			Process SIC code:
Describe the contributing process	Category	Quantity per day	Units of measure
	Subcategory		
d. Name of the process contributing to the discharge			Process SIC code:
Describe the contributing process	Category	Quantity per day	Units of measure
	Subcategory		

4. Expected or Proposed Discharge Flow Rates for this outfall:

a. Total Annual Discharge 0.146 MG	b. Daily Minimum Flow 0.001 MGD	c. Daily Average Flow 0.002 MGD	d. Daily Maximum Flow 0.0028 MGD	e. Maximum Design flow rate 0.0028 MGD
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INDUSTRIAL APPLICATION FORM NY-2C **Section II - Outfall Information**

Facility Name: Tin Barn Brewing Inc.	Outfall No.: 1 SPDES Number:
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5. Is this a seasonal discharge?
☐ **YES** - Complete the following table.

☒ **NO** - Go to Item 6 below.

Operations contributing flow (list)	Discharge frequency		Flow				
	Batches per year	Duration per batch	Flow rate per day		Total volume per discharge	Units	Duration (Days)
			LTA	Daily Max			

6. Water Supply Source (indicate all that apply)

	Name or owner of water supply source	Volume or flow rate	Units (check one)		
Municipal Supply			MGD	GPD	GPM
Private Surface Water Source			MGD	GPD	GPM
Private Supply Well	Tin Barn Brewing Inc.	unknown	MGD	GPD	GPM
Other (specify)			MGD	GPD	GPM

7. Outfall configuration: (Surface water discharges only)**A. Where is the discharge point located with respect to the receiving water?**

- In the streambank: ☒
- In the stream: ☐
- Within a lake or ponded water: ☐
- Within an estuary: ☐ Attach Supplement C, MIXING ZONE REQUIREMENTS FOR DISCHARGES TO ESTUARIES.
- Discharge is equipped with diffuser: ☐ Attach description, including configuration and plan drawing of diffuser, if used.

B. If located in a stream, approximately what percentage of stream width from shore is the discharge point located?

10% 25% 50% Other:

C. If located in a stream, describe the stream geometry in the general vicinity of the discharge point, under low flow conditions:

Stream width	Stream depth	Stream velocity
Feet	Feet	Feet/Sec

Are the results of a mixing/diffusion study attached? ☐ **YES**
☐ **NO**

Section II - Outfall Information

Facility Name: Tin Barn Brewing Inc.	Outfall No.: 1
SPDES Number:	

8. Thermal Discharge Criteria

Is your facility one of the applicable types of facilities listed in the instructions, and does the temperature of this discharge exceed the receiving water temperature by greater than three (3) degrees Fahrenheit?

☐ YES - Complete the following table.

☐ Information on the intake and discharge configuration of this outfall is attached.

☒ NO - Go to Item 9. below.

Discharge Temperature, deg. F			Duration of maximum discharge temperature		Dates of maximum discharge temperature		Maximum flow rate	Discharge configuration (e.g. subsurface, surface, effluent diffuser, diffusion well, etc.)
Average change in temperature (delta T)	Maximum change in temperature (delta T)	Maximum temperature	hours per day	days per year	From	To	MGD	

9. Are any water treatment chemicals or additives that are used by your facility subsequently discharged through this outfall?

☒ YES - Complete the following table and complete pages 1 of 3 and 2 of 3 of Form WTCFX for each water treatment chemical listed.

☐ NO - Go to Item 10. below.

Manufacturer	WTC trade name	Manufacturer	WTC trade name
Loeffler Chemical Corp.	Peracetic Acid		
Hydrox	Isopropyl Alcohol		
Hydrox	Lerapur		
Loeffler Chemical Corp.	Citric Acid		

10. Has any biological test for acute or chronic toxicity been performed on this outfall or on the receiving water in relation to this outfall in the past three (3) years?

☐ YES - Complete the following table.

☒ NO - Go to Item 11. on the following page.

Water tested	Purpose of test	Type of test	Chronic or Acute?	Subject species	Testing date(s)		Submitted? (Date)
					Start	Finish	

INDUSTRIAL APPLICATION FORM NY-2C
Section II - Outfall Information

Facility Name: Tin Barn Brewing Inc.		Outfall No.: 1
		SPDES Number:

11. Is the discharge from this outfall treated to remove process wastes, water treatment additives, or other pollutants?

☒ **YES** - Complete the following table. Treatment codes are listed in Table 4.

☐ **NO** - Go to Item 12 below.

Treatment process	Treatment Code(s)	Treatment used for the removal of:	Design Flow Rate (include units)
Single-pass sand filter	6-A	Solids	
Septic Tank	6-A		

12. Does this facility have either a compliance agreement with a regulating agency, or have planned changes in production, which will materially alter the quantity and/or quality of the discharge from this outfall?

☐ **YES** - Complete the following table.

☒ **NO** - Go to Section III on the following page.

Description of project	Subject to Condition or Agreement in existing permit or consent order? (List)	Change due to production increase?	Completion Date(s)	
			Required	Projected

This completes Section II of the SPDES Industrial Application Form NY-2C. Section I, which requires general information regarding your facility, and Section III, which requires sampling information for each of the outfalls at your facility, must also be completed and submitted with this application.

INDUSTRIAL APPLICATION FORM NY-2C **Section III - Sampling Information**

Facility Name: **Tin Barn Brewing Inc.**

SPDES No.:

Outfall No.: **1**

1. Sampling Information - Conventional Parameters

Provide the analytical results of at least one analysis for every pollutant in this table. If this outfall is subject to a waiver as listed in Table 5 of the instructions for one or more of the parameters listed below, provide the results for those parameters which are required for this type of outfall.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. For daily report sort of all of this information on separate sheets (using the same format) instead of completing this page.

Pollutant	Effluent data				Units		Intake data (optional)		
	a. Maximum daily value		b. Maximum 30-day value		c. Long term average	d. Number of analyses	e. Concentration	f. Mass	
	1. Concentration	2. Mass	1. Concentration	2. Mass					1. Concentration
a. Biochemical Oxygen Demand, 5 day (BOD)					400				
b. Chemical Oxygen Demand (COD)					2,300				
c. Total Suspended Solids (TSS)					20				
d. Total Dissolved Solids (TDS)					1,000				
e. Oil & Grease					10				
f. Chlorine, Total Residual (TRC)					1				
g. Total Organic Nitrogen (TON)					4				
h. Ammonia (as N)					2				
i. Flow	Value		Value		1,000 gpd				
j. Temperature, winter	Value		Value						
k. Temperature, summer	Value		Value						
l. pH	Minimum 6	Maximum 8	Minimum	Maximum					

2. Sampling Information - Priority Pollutants, Toxic Pollutants, and Hazardous Substances

a. Primary Industries: i. Does the discharge from this outfall contain process wastewater?

Yes - Go to Item II, below.
 No - Go to Item b. below.

ii. Indicate which GCMS fractions have been tested for:

Volatiles: ☐ Acid: ☐ Base/Neutral: ☐ Pesticide: ☐

b. All applicants: i. Do you know or have reason to believe that any of the pollutants listed in Tables 6, 7, or 8 of the instructions are present in the discharge from this outfall?

Yes - Concentration and mass data attached.
 No - Go to Item II, below.

ii. Do you know or have reason to believe that any of the pollutants listed in Table 9 or Table 10 of the instructions, or any other toxic, harmful, or injurious chemical substances not listed in Tables 6-10, are present in the discharge from this outfall?

Yes - Source or reason for presence in discharge attached
 Yes - Quantitative or qualitative data attached
 No

TIN ROOF BREWERY PROCESS FLOW DIAGRAM

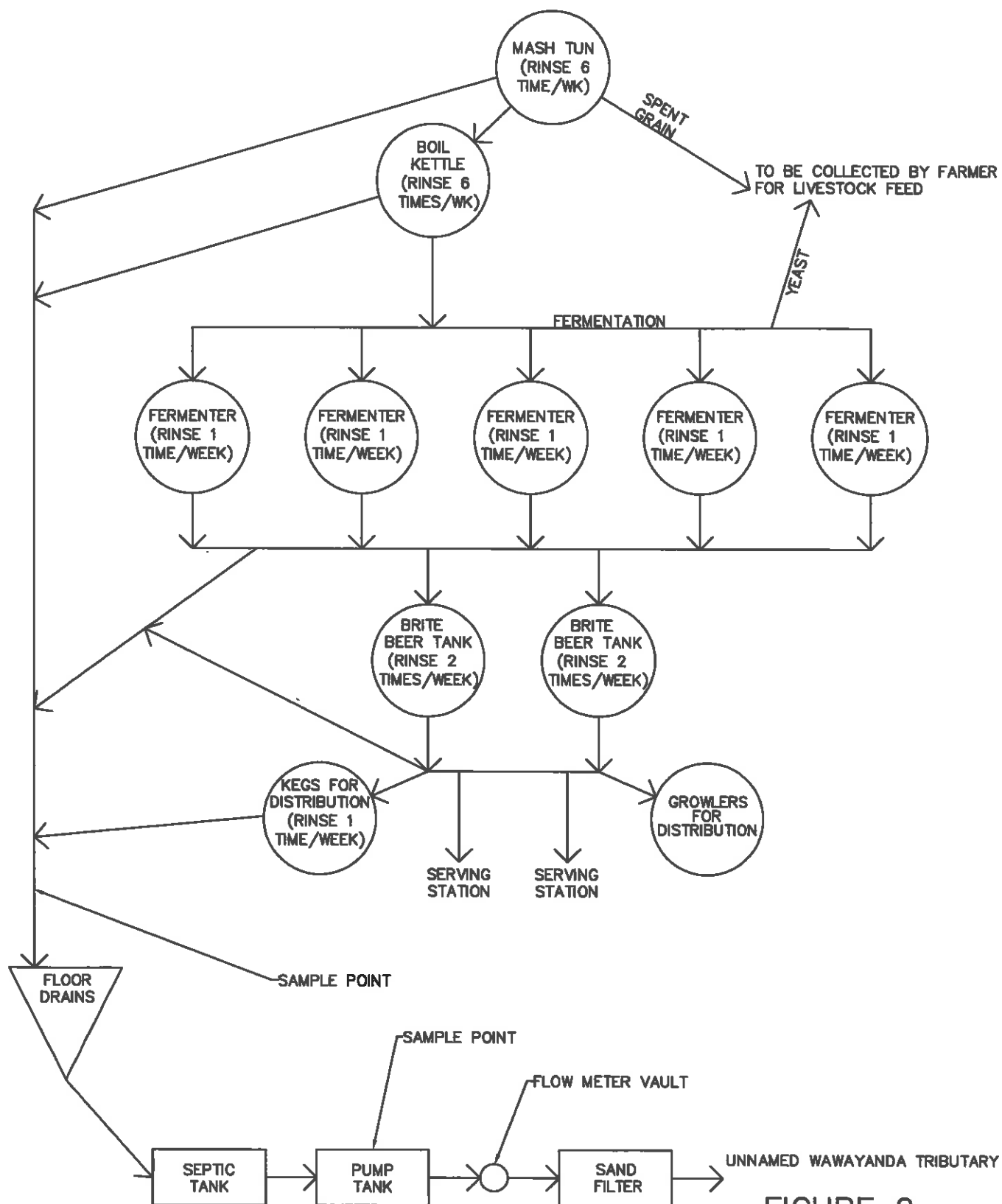


FIGURE 2
LEHMAN & GETZ, P.C. 3-20-17

State Pollutant Discharge Elimination System (SPDES)
INDUSTRIAL APPLICATION FORM NY-2C
 Supplement A
BEVERAGE INDUSTRY (SIC Codes 2082, 2084, 2086)

Facility Name: Tin Barn Brewing Inc.	SPDES Number:
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This supplement to your application requests specific production information necessary to prepare numerical limits for your SPDES permit. The following information will enable you to provide the necessary information. The information supplied below should be based upon past practices, present trends, and/or committed growth. If you have questions, please call Joseph DiMura at (518) 457-0657.

Subcategory	Production ¹			
	gal/day ²	days ³	gal/year	days
Breweries constructed after January 1, 1950 with a capacity of greater than 211,360 gallons per day (gal/day).				
Breweries constructed before January 1, 1900 with a capacity of greater than 528,400 gal/day.				
Breweries not included in the two previous categories.	405	30	147,420	365
Winery (during crushing).				
Winery (during wine production).				
Soft drink production with can packaging.				
Soft drink production with return bottle washing.				
Soft drink production not included in the two previous categories.				

- ¹ Report in terms of finished product, except for winery (during crushing) which is reported in terms of raw grapes processed (tons per day).
- ² Average daily production during the peak 30-consecutive-day processing period. To obtain this figure, divide the total production during the said 30-day period, in gallons, by the number of days the plant operated within this period.
- ³ Number of days used to obtain the gal/day figure.
- ⁴ Number of days used to obtain the gal/year figure.

State Pollutant Discharge Elimination System (SPDES)
Application Supplement B
DISCHARGES WITHIN SOLE SOURCE AQUIFERS

Facility Name: Tin Barn Brewing Inc.	SPDES Number: NY
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Your facility may be located in a sole source aquifer area, which is an area designated by Federal or State statutes. Maps showing the designated sole source areas can be found on the internet at: www.epa.gov/Region02/water/aquifer/index.html.

Chapter 663 of the Laws of 1983 added Section 17-0828 to the Environmental Conservation Law which requires that any person seeking a SPDES permit or a renewal hereunder, within an area designated pursuant to any federal or state statute as a sole source aquifer, shall include as a part of the required information, the name and address of all public water purveyors with a service area or portion thereof located within a three mile radius of the applicant's facility.

For purposes of this section "public water purveyor" shall mean any person, partnership, public or private corporation, municipality, or public authority which sells water derived from a sole source aquifer to at least five service connections or at least twenty-five individuals.

1. Water Purveyors within a three mile radius of your facility:

Please complete the following information to the best of your knowledge and attach it to your application. Attach additional copies of this sheet as necessary.		
	Name	Address
1.	Sugar Loaf Hills	1786 Kings Hwy, Chester, NY 10918
2.	Chester Town Hall	1786 Kings Hwy, Chester, NY 10918
3.	Cancun Inn	1396 Kings Hwy, Chester, NY 10918
4.	Anne Marie's Country Deli	1398 Kings Hwy, Chester, NY 10918
5.	Sugar Loaf Performing Arts Center	1351 Kings Hwy, Chester, NY 10918
6.	King Tract	P.O. Box 2110, Monroe, NY 10949
7.	Kings Estates	60 Dutch Hill Rd., Suite 11 Orangeburg, NY 10962
8.	Preiser LLC	46 Brookview Dr. Monroe, NY 10950
9.	Wickham Village	132 Kings Hwy, Warwick, NY 10990
10.	Warwick Valley Office	132 Kings Hwy, Warwick, NY 10990
11.	Grace Community Church	P.O. Box 595, Warwick, NY 10990

State Pollutant Discharge Elimination System (SPDES)

Application Supplement B
DISCHARGES WITHIN SOLE SOURCE AQUIFERS

Facility Name: Tin Barn Brewing Inc.	SPDES Number: NY
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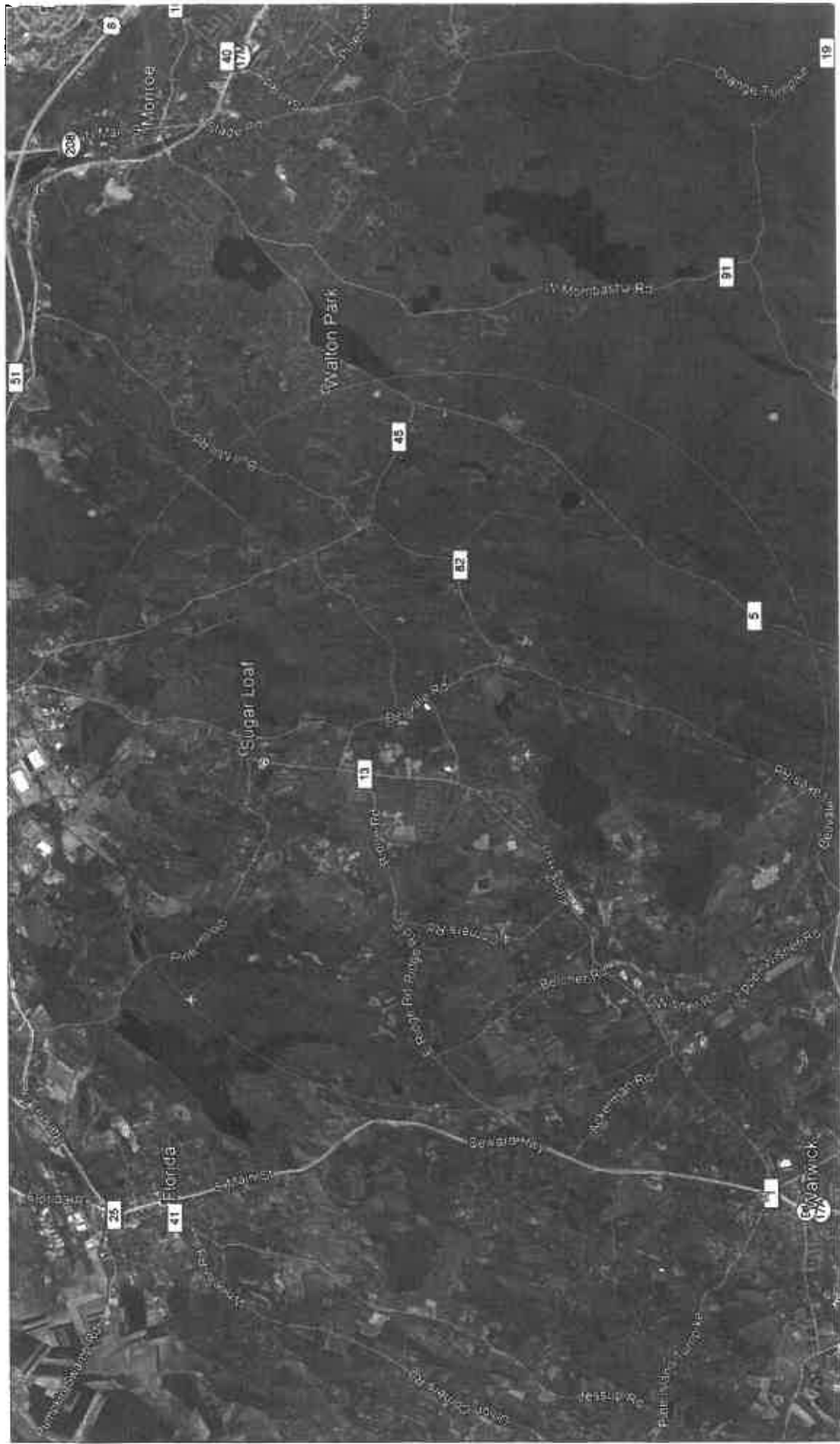
Your facility may be located in a sole source aquifer area, which is an area designated by Federal or State statutes. Maps showing the designated sole source areas can be found on the internet at: www.epa.gov/Region02/water/aquifer/index.html.

Chapter 663 of the Laws of 1983 added Section 17-0828 to the Environmental Conservation Law which requires that any person seeking a SPDES permit or a renewal hereunder, within an area designated pursuant to any federal or state statute as a sole source aquifer, shall include as a part of the required information, the name and address of all public water purveyors with a service area or portion thereof located within a three mile radius of the applicant's facility.

For purposes of this section "public water purveyor" shall mean any person, partnership, public or private corporation, municipality, or public authority which sells water derived from a sole source aquifer to at least five service connections or at least twenty-five individuals.

1. Water Purveyors within a three mile radius of your facility:

Please complete the following information <u>to the best of your knowledge</u> and attach it to your application. Attach additional copies of this sheet as necessary.		
	Name	Address
1.	Merchants Square Shopping Center	28 Ronald Reagan Blvd. Warwick, NY 10990
2.	Walton Lane Estates	
3.	All Seasons Co Op	
4.	Camp Monroe	Camp Monroe Rd, Monroe, NY 10950
5.	Lake Hill Farms	
6.	Bellvale Community	359 Gibson Hill Rd. Chester, NY 10918
7.	Greenwood Lake Middle School	1247 Lakes Rd. Monroe, NY 10950
8.		
9.		
10.		
11.		



Tin Barn
 Supplement B Map showing 6 mile radius around site

Lehman & Getz
 1/9/2018

SAFETY DATA SHEET

SECTION 01 - IDENTIFICATION

PRODUCT NAME: LERASEPT™ PAA
PRODUCT CODE: 4004
CAS CHEMICAL NAME: 79-21-0 (Peracetic Acid)
SYNONYMS: Peracetic Acid/Peroxyacetic Acid
INTENDED USAGE: Cleaner/Bleaching Agent/Oxidizer
COMPANY: Loeffler Chemical Corporation
200 Great Southwest Parkway
Atlanta, Georgia 30336 - USA

CHEMICAL EMERGENCY RESPONSE NUMBER:
SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT
CALL CHEMTREC (24hrs): 1-800-424-9300
Reference Code: CCN13310

SECTION 02 - HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Oxidizing liquids:	Category 3
Organic Peroxides:	Type F, liquid
Acute toxicity (Oral):	Category 3
Skin Corrosion:	Category 1A
Serious eye damage:	Category 1

Product AT USE DILUTION

Acute toxicity (Oral):	Category 4
Eye irritation:	Category 2B

GHS label elements

Product AS SOLD

Hazard Pictograms:



SAFETY DATA SHEET

PRODUCT NAME: LERASEPT™ PAA

PAGE: 02

SIGNAL WORD:

DANGER

Hazard Statements

Heating may cause fire.
May intensify fire; oxidizer.
Toxic if swallowed
Causes severe skin burns and eye damage.

Precautionary Statements:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustible materials. Keep only in original container. Keep cool. Wash skin thoroughly after handling. Do not eat, drink or smoke while using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

Store locked up. Protect from sunlight. Store away from other materials.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Product AT USE DILUTION

Hazard Pictograms:



SIGNAL WORD:

CAUTION

Hazard Statements

Harmful if swallowed
Causes eye irritation

Precautionary Statements:

Prevention:

Wash skin thoroughly after handling. Do not eat, drink or smoke while using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

SAFETY DATA SHEET

PRODUCT NAME: LERASEPT™ PAA

PAGE: 03

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Product AS SOLD

Other hazards:

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

CAS NUMBER	CHEMICAL NAME	%	OSHA PEL PPM (a) (1)	OSHA PEL MG/M ³ (b) (1)	ACGIH TWA PPM	ACGIH TWA MG/M ³	ACGIH STEL PPM	ACGIH STEL MG/M ³
79-21-0	Peracetic Acid	15 – 17	N/E	N/E	N/E	N/E	N/E	N/E
7722-84-1	Hydrogen Peroxide	< 31	1	1.4	1	1.4	N/E	N/E
64-19-7	Acetic Acid	< 16	10	25	10	25	15	37
2809-21-4	Phosphonic Acid	< 2	N/E	N/E	N/E	N/E	N/E	N/E

OSHA PEL Footnotes:

(1) The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples.

(a) Parts of vapor or gas per million parts of contaminated air by volume at 25 degrees C and 760 torr.

(b) Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

N/E = Not established • S = Skin • N/A = Not applicable • C = Ceiling

SECTION 04 - FIRST AID MEASURES

Product AS SOLD

EYE CONTACT:

Immediately flush eyes with water for at least 15 minutes, lifting lower and upper eyelids occasionally. In the case of difficulty opening the lids, administer an analgesic eye wash (e.g. oxybuprocaine). Seek immediate medical attention, preferred eye specialist, as soon as possible. Continue flushing with water for additional 15 minutes, if physician or ambulance is not immediately available.

SKIN CONTACT:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard clothing. Get medical attention.

INHALATION:

Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

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INGESTION:

Give victim large quantities of water, but DO NOT induce vomiting. If vomiting occurs, administer additional water. Do not attempt to induce vomiting or give anything by mouth to an unconscious person. Get medical attention immediately.

Medical Treatment/Notes to Physician:

Inhalation:

- Pulmonary resuscitation (oxygen therapy).
- If necessary, tracheal intubation.
- Prevention or treatment of shock, pulmonary edema and bacterial secondary infection.

Eyes:

- On the advice of the ophthalmologist.
- Medical surveillance for one to two weeks.

Skin: Usual treatment for burns.

Ingestion:

- Oxygen therapy via intra-tracheal intubation.
- If necessary, tracheotomy.
- Placement of gastric catheter to release stomach gases.
- Avoid gastric washing (risk of perforation).
- In cases of intense pain: inject an I.M. morphomimetic analgesic drug (e.g. piritramide) before taking to hospital.
- Prevention or treatment of shock and pulmonary edema.
- Urgent digestive endoscope with aspiration of the product.
- Treatment of gastrointestinal tract burns and resulting effects.

Product AT USE DILUTION

EYE CONTACT:

Immediately flush eyes with water for at least 15 minutes, lifting lower and upper eyelids occasionally. See medical assistance if symptoms persist.

SKIN CONTACT:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms persist.

INHALATION:

Remove from contaminated atmosphere. Get medical attention if symptoms persist.

INGESTION:

Give victim large quantities of water, but DO NOT induce vomiting. If vomiting occurs, administer additional water. Do not attempt to induce vomiting or give anything by mouth to an unconscious person. Get medical attention immediately.

SECTION 05 - FIRE FIGHTING MEASURES

Product AS SOLD

EXTINGUISHING MEDIA:

If involved in a fire, use water from safe distance. Cool exposed containers with water spray.

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SPECIAL FIRE

FIGHTING PROCEDURES:

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus and full protective clothing. See Section 6 "REACTIVITY HAZARD DATA" for unusual decomposition products.

Oxidizer. Contact with other material may cause fire. Oxidizer; material is an oxidizer which may readily react with other materials, especially upon heating.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Moderately flammable. When heated above the SADT, the liquid decomposes and releases rapidly flammable vapors which, when mixed with air, may burn or be explosive. Fine mists or sprays of this material may be flammable below the normal flash point. Oxygen released from Peracetic Acid and Hydrogen Peroxide may force organic or Hydrogen vapors into an explosive range. Follow appropriate NFPA codes.

HAZARDOUS COMBUSTION PRODUCTS:

Decomposition products may include the following materials: Carbon oxides; Nitrogen oxides (NOx); Sulfur oxides; Oxides of phosphorus

SPECIAL PROTECTIVE EQUIPMENT:

In case of fire, wear a full face positive-pressure self-contained breathing apparatus and protective suit.

SECTION 06 – ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions,
protective equipment and
emergency procedures:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions:

Do not allow contact with soil, surface or ground water.

Methods and materials for
containment and clean up:

Stop leak if safe to do so. Never soak up spilled or leaked acids and bases with sawdust, wood chips or similar materials. Isolate the waste do not allow it to come into contact with incompatible materials. For small spills contain with sand or vermiculite and dilute the contained product at least 10 times with water. Transfer to an open topped container and remove to a safe place for neutralization* / disposal. For large spills contain spill and evacuate the area, leave until the reaction subsides, then collect up for disposal. Obtain consent from the local water company / authority if considering discharge to sewer. *NEUTRALIZATION: Once diluted, neutralize with a suitable alkali such as sodium bicarbonate.

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SECTION 07 – HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

Product AS SOLD

Advice for safe handling:

Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Conditions for safe storage:

Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from strong bases. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Pressure bursts may occur due to gas evolution if the container is not adequately vented.

Storage temperature:

-10 °C to 50 °C (14 °F to 120 °F)

SECTION 08 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD

Ingredients with workplace control parameters

Ingredient	CAS – No.	Exposure Form	Permissible Concentration	Governing Body
Acetic Acid	64-19-7	TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
		STEL	15 ppm 37 mg/m ³	NIOSH REL
		TWA	10 ppm 25 mg/m ³	NIOSH REL
		TWA	10 ppm 25 mg/m ³	OSHA Z1
Peroxyacetic Acid	79-21-0	STEL	0.4 ppm	ACGIH
Hydrogen Peroxide	7722-84-1	TWA	1 ppm	ACGIH
		TWA	1 ppm 1.4 mg/m ³	NIOSH REL
		TWA	1 ppm 1.4 mg/m ³	OSHA Z1

Engineering measures:

Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

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Personal protective equipment:

Eye Protection: Wear eye protection/ face protection.

Hand Protection: Wear the following personal protective equipment: 1 - 4 hours: butyl rubber, nitrile rubber. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin Protection: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

SECTION 09 – PHYSICAL AND CHEMICAL PROPERTIES

FORM, COLOR, AND APPEARANCE:

PHYSICAL FORM: Liquid
COLOR: Clear, colorless
ODOR: Sharp, pungent

TYPICAL PHYSICAL DATA:

pH (@ 1% solution):	~2.0
VAPOR PRESSURE @ 20° C (mbar):	~ 25
VAPOR DENSITY (Air = 1):	~0.9
BOILING POINT:	Decomposes
FREEZING/MELTING POINT:	~58° F (-50° C)
SOLUBILITY IN WATER:	Complete
SPECIFIC GRAVITY @ 20° C (g/cm³):	1.14
DENSITY @ 68° F (lbs/gal):	9.50
EVAPORATION RATE (Butylacetate = 1):	~1.08

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY:

Stable [X*] Unstable []

Stable under normal conditions of use with slow gas release.
*SADT: Passes 49° C (120° F); fails 60° C (140° F)

CONDITIONS TO AVOID (If unstable):

Unstable with heat or contamination; liberation of Oxygen gas may result in dangerous pressures (See "Decomposition" below).

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MAJOR CONTAMINANTS CONTRIBUTING TO INSTABILITY:

Dirt, alkalis, and heavy metals such as iron, copper, chromium, and cobalt.

INCOMPATIBILITY (Materials to avoid):

Peracetic Acid is a strong oxidizer and incompatible with most materials, especially Acetic anhydrides, reducing agents, and organic materials such as terpenes and alcohol.

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials):

Acetic Acid, Methane, and Oxygen which supports combustion. Contamination or heat may cause self-accelerating exothermic decomposition with Oxygen gas and steam release that can cause dangerous pressures. May react dangerously with rust, dust, dirt, iron, copper, heavy metals, or their salts (such as Mercuric oxide or chloride), alkalis, and with organic materials (especially Vinyl monomers).

SECTION 11 – TOXICOLOGICAL INFORMATION

Product AS SOLD

Eye contact:

Contact with eyes results in eye corrosion with corneal or conjunctival ulceration with possible irreversible eye damage, including loss of vision. Symptoms may include stinging, severe pain, redness, tearing, and bleaching. Vapors may cause severe irritation or possible burns to the eyes with possible irreversible eye damage.

Skin contact:

Contact with skin causes severe, long-lasting chemical burns and ulceration and may destroy the tissue. Symptoms may include bleaching, itching, severe pain, or developing rash. Higher or prolonged exposure may result in ulceration and severe burns and may destroy the tissue.

Inhalation:

Overexposure by inhalation may cause severe irritation and possible severe chemical burns to the upper and lower respiratory tract and breathing difficulties. Symptoms may include irritation and pain in throat, mouth, and nose. Other symptoms may include coughing, choking, and nausea.

Ingestion:

Ingestion causes immediate pain and severe burns to the mouth, throat, esophagus, and the gastrointestinal tract. Symptoms may include upper abdominal pain, "heartburn", nausea, vomiting, and diarrhea. "Coffee grounds" vomits and black tarry stools may occur as a result of gastrointestinal tract bleeding. Additional effects from overexposure include red blood cell destruction or gas embolism. Gross overexposure by inhalation or ingestion may be fatal.

CARCINOGENICITY:

None of the components in this material are listed by the IARC, NTP, OSHA, or ACGIH as a carcinogen.

ACUTE TOXICITY EFFECTS DATA:

Inhalation:

LC50, one hour, rat, 590 mg/m³ (12% solution).

Oral:

LD50 rat, 652 mg/kg (12% solution).

Dermal:

LD50, rabbit, 1957 mg/kg (12% solution).

Irritation:

• Rabbit, serious damage (eyes) (4% solution).

• Rabbit, corrosive (skin).

• Inhalation, rat, Respiratory irritation (RD50), 22 to 24 mg/m³.

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SECTION 12 – ECOLOGICAL INFORMATION

Product AS SOLD

Eco toxicity

Environmental Effects: Toxic to aquatic life

Product

Toxicity to fish: 96 h LC50: 10.3mg/l

Toxicity to daphnia and other
Aquatic invertebrates: No data available

Toxicity to algae: No data available

Ingredients

Toxicity to daphnia and other
Aquatic invertebrates: Peroxyacetic Acid
48 h EC50: 0.73 mg/l

Toxicity to algae: Peroxyacetic Acid
72 h EC50: 0.7 mg/l

Hydrogen Peroxide
72 h EC50: 1.38 mg/l

Persistence and degradability: No data available

Bio accumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: No data available

Abiotic degradation:

- Air - significant photolysis.
- Water, t $\frac{1}{2}$ 120 hours - significant hydrolysis.
- Degradation products: acetic acid and hydrogen peroxide. Kinetic as a function of temperature, dilution, presence of impurities (0.2% solution).
- Soil, 99%, 20 minutes - significant degradation. Test substance: 1% solution.

Biotic degradation:

- Aerobic, test: ready biodegradability/closed bottle.
- Result: non-biodegradable.
- Aerobic, test: intrinsic biodegradability, >70%, 28 days.
- Conditions: test concentration: 2 - 5 ppm / adapted culture.
- Anaerobic - No data.
- Effects on biological treatment plants, 90 mg/L.
- Result: inhibitory action.
- Effects on biological treatment plants.
- Result: BOD increase of treated effluent by acetic acid formation.

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Potential for bioaccumulation:

Result - non-bioaccumulable.

Comments:

- Toxic for aquatic organisms.
- Nevertheless, hazard for the environment is limited due to product properties.
- No bioaccumulation.
- Considerable abiotic and biotic degradability.
- Weak persistence of degradation products.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product AS SOLD

Disposal methods:

Do not contaminate ponds, waterways or ditches with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations:

Dispose of any unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

RCRA - Resource Conservation and Recovery Authorization Act

Hazardous waste:

D002 (Corrosive)
D001 (Ignitable)

SECTION 14 – TRANSPORT INFORMATION

Mode	DOT	IMDG	IATA
UN Number	3109	3109	3109
Class (Subsidiary)	5.2 (8)	5.2 (8)	5.2
Proper Shipping Name	Organic peroxide, type F, liquid (Peracetic Acid 15%)	Organic peroxide, type F, liquid (Peracetic Acid 15%)	Organic peroxide, type F, liquid (Peracetic Acid 15%)
Hazard label (Subsidiary)	Organic Peroxide (Corrosive)	Organic Peroxide (Corrosive)	Organic Peroxide (Corrosive)
Placard (Subsidiary)	5.2 (8)	5.2 (8)	
Packing Group	II	II	II
ERG Info	ERG 145	EmS: 5.2-01	ERG Code: 5L

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SECTION 15 – REGULATORY INFORMATION

TSCA Inventory List: Yes.

CERCLA Hazardous Substance (40 CFR § 302)

Listed Substance: Yes (acetic acid).

Unlisted Substance: Yes.

Characteristic: Ignitability, corrosivity.

RCRA Waste Number: D001, D002.

Reportable Quantity: 100 pounds, 5,000 pounds (acetic acid).

SARA Title III, Sections 311/312 (40 CFR § 370)

Hazard Category: Fire Hazard
Immediate Health Hazard
Reactive

Planning Threshold: 500 pounds.

SARA Title III, Section 313 (40 CFR § 372)

Listed Toxic Chemical: Yes.

SARA Title III, Sections 302/303 (40 CFR § 355)

Extremely Hazardous Substance: Yes.

Reportable Quantity: 500 pounds.

Planning Threshold: 500 pounds.

Canadian WHMIS Classification

C - Oxidizing

E - Corrosive

F - Dangerously Reactive

Canadian Domestic Substances List (DSL)

Listed Substance: Yes.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Occupational Safety and Health Administration (OSHA) requirements for process safety management must be followed anytime at least 1,000 lbs. of Peracetic, (> 60% acetic acid) is used or stored. Refer to 29CFR1910.119 for specific details.

Environmental Protection Agency (EPA) requirements for a Risk Management Plan (RMP) must be followed anytime at least 10,000 lbs. of Peracetic acid is used or stored. Refer to 40CFR68.150 for specific details.

Loeffler Chemical Corporations Peracetic Acid formulations as packaged have a partial pressure of Peracetic Acid less than 10 mm of mercury (mmHg) up to 60°C (140°F) and therefore need not be considered when determining threshold quantities for RMP. Refer to 40CFR68.115 (b) (1) for details.

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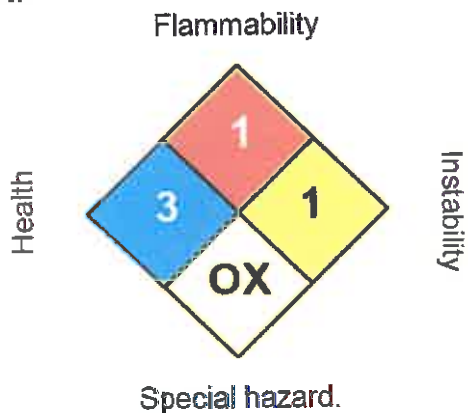
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SECTION 16 – OTHER INFORMATION

Product AS SOLD

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	1

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Date of Printing: Thursday, June 23, 2016

Last Revision: Thursday, June 23, 2016

REVISION SUMMARY:

This SDS replaces Revision #0, dated November 13, 2013

Changes in information are as follows:

Compliance with new GHS format

Sections 1 through 16

Note:

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

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Safety Data Sheet Isopropyl Rubbing Alcohol USP 70%

SDS Revision Date:

04/29/2015

1. Identification

1.1. Product identifier

Product Identity

Isopropyl Rubbing Alcohol USP 70%

Alternate Names

Product Code: 002

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use

First aid to help prevent the risk of infection in: minor cuts, scrapes, burns. For external use only.

Application Method

Clean the affected area. Apply 1 to 3 times daily.

1.3. Details of the supplier of the safety data sheet

Company Name

Hydrox Laboratories
825 Tollgate Rd.
Elgin, IL 60123

Emergency

24 hour Emergency Telephone No.

800-255-3924

Customer Service: Hydrox Laboratories

847-468-9400

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Flam. Liq. 3;H226

Flammable liquid and vapor.

Eye Irrit. 2;H319

Causes serious eye irritation.

STOT SE 3;H336

May cause drowsiness or dizziness.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Warning

H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness and dizziness.



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[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P235 Keep cool.

P240 Ground / bond container and receiving equipment.

P241 Use explosion-proof electrical / ventilating / light / equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P337+313 If eye irritation persists: Get medical advice / attention.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Isopropyl Alcohol CAS Number: 0000067-63-0	50 - 75	Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336	[1][2]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.



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4. First aid measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview	Signs and Symptoms of Exposure: Giddiness, headache, dizziness and nausea. Medical Conditions Generally Aggravated by Exposure: Pre-existing and respiratory disorders, may be aggravated by exposure. Health Hazards (Acute and Chronic): Generally used as a rubdown. Vapor irritates eyes. High concentration of vapor can irritate respiratory tract, is anesthetic and may cause CNS depression. Not a carcinogen. Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.
Inhalation	May cause drowsiness or dizziness.
Eyes	Causes serious eye irritation.

5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO₂, water fog.



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Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Burning may produce carbon monoxide and carbon dioxide contamination.

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

Dilution of burning liquid with water will affect extinguishment.

None

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Eliminate all sources of ignition. Small spills should be flushed with large quantities of water, larger spills should be collected for disposal.

Atomize into an incinerator where permitted under appropriate federal, state, and local regulations.

7. Handling and storage

7.1. Precautions for safe handling

Do NOT take internally. Flammable liquid. Keep away from heat, sparks and open flames. Keep container closed.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Naked flames and smoking should not be permitted in storage areas. It is recommended that fork lift trucks and electrical equipment are protected to the appropriate standard.

Incompatible materials: Anyhydride, isocyanate, monomer and organo-metallic.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.



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8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0000067-63-0	Isopropyl Alcohol	OSHA	TWA 400 ppm (980 mg/m ³) STEL 500 ppm
		ACGIH	TWA: 200 ppm STEL: 400 ppm Revised 2003,
		NIOSH	TWA 400 ppm (980 mg/m ³) ST 500 ppm (1225 mg/m ³)
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000067-63-0	Isopropyl Alcohol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;

8.2. Exposure controls

Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes

Protective goggles if desired.

Skin

Rubber or vinyl gloves if desired.

Engineering Controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices

Ensure showers and eyewash stations are available. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance

Colorless Liquid

Odor

Characteristic

Odor threshold

Not Measured

pH

Not Measured



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Melting point / freezing point	Not Measured
Initial boiling point and boiling range	87C
Flash Point	77F (TCC)
Evaporation rate (Ether = 1)	2.3 (Butyl Acetate=1)
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: 2 Upper Explosive Limit: 12
Vapor pressure (Pa)	33 mmHg
Vapor Density	2.07 (Air=1)
Specific Gravity	0.88 (H ₂ O=1) @ 25 C
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
% Volatile	100
Isopropyl Alcohol Assay by Volume	68%-72%
9.2. Other information	
No other relevant information.	

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Avoid heat, sparks and open flame.

10.5. Incompatible materials

Anyhydride, isocyanate, monomer and organo-metallic.

10.6. Hazardous decomposition products

Burning may produce carbon monoxide and carbon dioxide contamination.



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11. Toxicological information

Acute toxicity

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Isopropyl Alcohol - (67-63-0)	4,710.00, Rat - Category: 5	12,800.00, Rat - Category: NA	72.60, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	3	May cause drowsiness or dizziness.
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and GHS and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details



Safety Data Sheet Isopropyl Rubbing Alcohol USP 70%

SDS Revision Date:

04/29/2015

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Isopropyl Alcohol - (67-63-0)	1,400.00, <i>Lepomis macrochirus</i>	100.00, <i>Daphnia magna</i>	100.00 (72 hr), <i>Scenedesmus subspicatus</i>

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

See Bill-of-Lading.

15. Regulatory information

Regulatory Overview

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)

All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification

B2 D2B

US EPA Tier II Hazards

Fire: Yes

Sudden Release of Pressure: No

Reactive: No

Immediate (Acute): Yes

Delayed (Chronic): No



Safety Data Sheet Isopropyl Rubbing Alcohol USP 70%

SDS Revision Date:

04/29/2015

EPCRA 311/312 Chemicals and RQs:

No chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:

No chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Isopropyl Alcohol

Proposition 65 - Carcinogens (>0.0%):

No chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

No chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

No chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

No chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Isopropyl Alcohol

Pennsylvania RTK Substances (>1%):

Isopropyl Alcohol

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness and dizziness.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

Disclaimer: The contents of this MSDS are believed to be correct but do not purport to be all-inclusive and should only be used as a guide. Hydrox Laboratories, Inc. disclaims any express or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental or consequential damages resulting from the reliance on the above information.

End of Document

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

1. Identification**Product identifier****Trade name:** LERAPUR™ CC-3800-XP**CAS Number:** MIXTURE**Relevant identified uses of the substance or mixture and uses advised against:**

For professional use only. Use according to manufacturer's specifications.

Product description Heavy duty caustic CIP cleaner.**Application of the substance / the mixture:** Industry specific application.**Details of the supplier of the safety data sheet:****Manufacturer/Supplier:**

LOEFFLER CHEMICAL CORPORATION

200 Great Southwest parkway

Atlanta, GA 30336

Telephone: 1-800-769-5020 // (404) 629-0999

Telefax: (404) 629-0690

www.loefflerchemical.com

info@loefflerchemical.com

Emergency telephone number: CHEMTREC (24 Hours): 1-800-424-9300**2. Hazard(s) identification****Classification of the substance or mixture:**

GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

Label elements:**GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms:

GHS05

Signal word: Danger**Hazard-determining components of labeling:**

Sodium Hydroxide

Hazard statements:

Causes severe skin burns and eye damage.

Precautionary statements:

Do not breathe mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

(Contd. on page 2)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 Take off contaminated clothing and wash it before reuse.
 Store locked up.
 Store in a well-ventilated place. Keep container tightly closed.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Unknown acute toxicity:

2.1 percent of the mixture consists of ingredient(s) of unknown toxicity.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 0

Reactivity = 1

HMIS-ratings (scale 0 - 4)

Health = 3

Fire = 0

Reactivity = 1

Hazard(s) not otherwise classified (HNOC): None known**Chemical characterization: Mixtures**

Description: Mixture: consisting of the following components.

Dangerous Components:

1310-73-2 Sodium Hydroxide

Skin Corr. 1A, H314 25-50%

Description of first aid measures:

General information: Immediately remove any clothing soiled by the product.

After inhalation:

Remove victim to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

After skin contact:

Immediately flush skin with running water for at least 15 minutes while removing contaminated clothing and shoes under a safety shower. Discard contaminated clothing. Get medical attention if irritation persists.

After eye contact:

Immediately flush eyes with large quantities of running water for at least 15 minutes. Hold the eyelids apart during flushing to ensure rinsing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Get medical attention immediately.

After swallowing:

DO NOT INDUCE VOMITING! Immediately give large quantities of water or acidic beverages (Tomato or orange juice, carbonated soft drinks), but do not induce vomiting. If vomiting occurs, administer additional water. Do not attempt to give anything by mouth if the victim is unconscious or having convulsions. Get medical attention immediately.

Information for doctor:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. The principal manifestation of overexposure is corrosion or burns.

(Contd. on page 3)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP**Most important symptoms and effects, both acute and delayed:**

Skin contact: Causes severe chemical burns and frequently deep ulceration with subsequent scarring. Symptoms may include pain, stinging, itching, and developing rash. Prolonged contact may destroy the tissue.

Eye contact: Causes severe chemical burns with possible impairment of vision and severe corneal damage. Symptoms may include immediate pain, tearing, and redness.

Inhalation: May cause severe burns and damage to the upper respiratory tract and to the lung tissue, depending upon extent of exposure. Effects can range from mild irritation of mucous membranes, severe pneumonitis, and destruction of lung tissue. Inhalation of high concentrations can result in permanent lung damage.

Ingestion: Causes severe burns to the mouth, esophagus, stomach, and other tissues, which have been contacted. Symptoms may include nausea, vomiting, diarrhea, severe abdominal pain, bleeding, and/or tissue ulceration. Gross overexposure by ingestion may be fatal.

Prolonged skin exposure may cause destruction of the dermas with impairment of the skin at site of contact to regenerate. Prolonged inhalation exposure may cause impairment of lung function and permanent lung damage. Repeated or prolonged ingestion will cause deep ulceration of all contacted tissue and may be fatal. Repeated eye contact will cause irreversible corneal damage resulting in loss of vision.

Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

Fire-fighting measures

Extinguishing media:

Suitable extinguishing agents: If involved in a fire, use water spray.

Special hazards arising from the substance or mixture:

Contact with some metals, particularly magnesium, aluminum, and zinc (galvanized) can rapidly generate hydrogen, which increases the intensity of fires and may be explosive. Thermal decomposition may emit phosphoric acid, carbon monoxide, carbon dioxide, oxides of nitrogen, and other unidentified by-products. Phosphines may form after all water has been removed.

Advice for firefighters: Wear self-contained breathing apparatus and full protective gear.

Protective equipment:

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Avoid contact with skin, eyes and clothing.

Ensure adequate ventilation.

Wear protective equipment. Keep unprotected persons away.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

SMALL SPILLS: Confine spill area. Stop leak if this can be done without danger. Spilled material should be flushed with plenty of water. Neutralize diluted material with diluted acid. Do not flush larger amounts of product into sewer, streams, or waterways. Sewer with excess water.

LARGE SPILLS: Confine spill area. Stop leak if this can be done without danger. Reclaim spilled material if possible. If not possible, dilute spilled material with large quantities of water and neutralize with diluted acid.

(Contd. on page 4)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP

Neutralized material can be recovered by vacuum truck for disposal (See below). After all visible traces have been removed, flush area with large quantities of water. Do not flush larger amounts of product into city sewer, streams, or waterways.

WASTE DISPOSALS: Flushed material should be collected in confined chemical sewer or waste water system. Adjust pH to accepted values before discharging product into city sewer. Methods of disposal may vary upon location. Contact your local agencies to comply with all applicable federal, state, and local laws and regulations. Disposal of neutralized material in an approved hazardous waste management facility is recommended. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is the users duty to dispose of the chemical materials and/or their containers in compliance with the Clean Air Act, the Clean Water Act, the Resource Conservation And Recovery Act, as well as any other relevant federal, state, or local laws/regulations regarding disposal.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Handling and storage**Handling****Precautions for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measures required.**Conditions for safe storage, including any incompatibilities:**

Store product in shipping container and store in a dry, cool, and well-ventilated area. Protect container from physical damage and from direct sunlight. Keep container tightly closed when not in use. **KEEP OUT OF REACH OF CHILDREN!** Store away from organic materials and concentrated acids, magnesium, aluminum, zinc (galvanized), tin, chromium, brass, bronze, and various food sugars.

Storage**Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:**

Store product in shipping containers in a dry, cool, and well ventilated area. Protect container from physical damage and from direct sunlight. Keep container tightly closed when not in use.

Specific end use(s): No further relevant information available.**Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see section 7.**Control parameters:**

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Components with occupational exposure limits:**1310-73-2 Sodium Hydroxide**

PEL Long-term value: 2 mg/m³

REL Ceiling limit value: 2 mg/m³

TLV Ceiling limit value: 2 mg/m³

Additional information: The lists that were valid during the creation of this SDS were used as basis.

(Contd. on page 5)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP

• **Exposure controls:**

• **Personal protective equipment:**

• **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

• **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

• **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

• **Penetration time of glove material:**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

• **Eye protection:**



Face protection



Tightly sealed goggles

• **Body protection:**



Protective work clothing

Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:

Liquid

Color:

Clear, colorless to slightly yellow

• **Odor:**

Characteristic

• **Odor threshold:**

Not determined.

(Contd. on page 6)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP

· pH-value @ 20 °C (68 °F):	12.8
· Change in condition	
Melting point/Melting range:	7 °C (45 °F)
Boiling point/Boiling range:	140 °C (284 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	0.0 Vol %
Upper:	0.0 Vol %
· Vapor pressure:	Not determined.
· Density @ 20 °C (68 °F):	1.43 g/cm³ (11.933 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate @ 20 °C (68 °F):	<1 (nBuAc=1)
· Solubility in / Miscibility with:	
Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	58.7 %
Solids content:	40.1 %
· Other information:	No further relevant information available.

11 Stability and reactivity

- **Reactivity:** Stable under normal conditions.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** Stable under normal use conditions
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:**
Organic materials and concentrated acids, magnesium, aluminum, zinc (galvanized), tin, chromium, brass, bronze, and various food sugars.
- **Hazardous decomposition products:**
Thermal decomposition may emit phosphoric acid, carbon monoxide, carbon dioxide, oxides of nitrogen, and other unidentified by-products. Phosphines may form after all water has been removed.

(Contd. on page 7)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP**1. Technical Information****Information on toxicological effects:****Acute toxicity:****LD/LC50 values that are relevant for classification:****1310-73-2 Sodium Hydroxide**

Oral LD50 2000 mg/kg (rat)

Primary irritant effect:**On the skin:** Strong caustic effect on skin and mucous membranes.**On the eye:**

Strong irritant with the danger of severe eye injury.

Corrosive effect.

Causes serious eye irritation.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories:**IARC (International Agency for Research on Cancer):**

Group 1 - Carcinogenic to humans

Group 2A - Probably carcinogenic to humans

Group 2B - Possibly carcinogenic to humans

Group 3 - Not classifiable as to its carcinogenicity to humans

Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

NTP (National Toxicology Program):

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

2. Ecological Information**Toxicity:** The hazards for the aquatic environment are unknown.**Aquatic toxicity:** No further relevant information available.**Persistence and degradability:** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential:** No further relevant information available.**Mobility in soil:** No further relevant information available.**Additional ecological information:****General notes:**

Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

(Contd. on page 8)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP**Results of PBT and vPvB assessment:**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

Waste treatment methods:**Recommendation:**

Observe all federal, state and local environmental regulations when disposing of this material.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:**Recommendation:**

Dispose of as unused product.
Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

Transport information**UN-Number:****DOT, ADR, IMDG, IATA**

UN3266

UN proper shipping name:**DOT**

Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide)

ADR

UN3266 Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide)

IMDG, IATA

CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide)

Transport hazard class(es):**DOT****Class:**

8 Corrosive substances

Label:

8

ADR**Class:**

8 (C5) Corrosive substances

Label:

8

IMDG, IATA**Class:**

8 Corrosive substances

Label:

8

(Contd. on page 9)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP

- **Packing group:** II
- **DOT, ADR, IMDG, IATA** Not applicable.
- **Environmental hazards:** Warning: Corrosive substances
- **Special precautions for user:** 80
- **Danger code (Kemler):** F-A, S-B
- **EMS Number:** Alkalis
- **Segregation groups:**
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations:** On passenger aircraft/rail: 1 L
On cargo aircraft only: 30 L
- **ADR**
- **Excepted quantities (EQ):** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
- **IMDG**
- **Limited quantities (LQ):** 0
- **Excepted quantities (EQ):** Code: E0
Not permitted as Excepted Quantity
UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, II
- **UN "Model Regulation":**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**
- **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.
- **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.
- **TSCA (Toxic Substances Control Act):**
 - 1310-73-2 Sodium Hydroxide
 - 527-07-1 Sodium Gluconate
 - Proprietary
 - 13598-36-2 Phosphorous acid
 - 7732-18-5 Water, distilled water, deionized water
- **California Proposition 65:**
- **Chemicals known to cause cancer:**
None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

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Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

Carcinogenic categories:**EPA (Environmental Protection Agency):**

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH):

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms:

GHS05

Signal word: Danger**Hazard-determining components of labeling:**

Sodium Hydroxide

Hazard statements:

Causes severe skin burns and eye damage.

Precautionary statements:

Do not breathe mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

State Right to Know:

1310-73-2 Sodium Hydroxide

Skin Corr. 1A, H314 25-50%

All ingredients are listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**Other information**

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not

(Contd. on page 11)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/07/2015

Reviewed on 08/07/2015

Trade name: LERAPUR™ CC-3800-XP

establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 08/07/2015 / -

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

· *** Data compared to the previous version altered.**

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 1 of 7

Citric Acid, Anhydrous,

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : Citric Acid, Anhydrous,

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25255

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Irritant

Eye irritation, category 2A

Eye Irritation 2

Signal word :Warning

Hazard statements:

Causes serious eye irritation

Precautionary statements:

If medical advice is needed, have product container or label at hand

Keep out of reach of children

Read label before use

Wash ... thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Do not eat, drink or smoke when using this product

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

Combustible Dust Hazard: :

May form combustible dust concentrations in air (during processing).

Other Non-GHS Classification:

WHMIS

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 2 of 7

Citric Acid, Anhydrous,



E

NFPA/HMIS



NFPA SCALE (0-4)

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:

CAS 77-92-9	Citric Acid, Anhydrous, ACS	100 %
Percentages are by weight		

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

After skin contact: Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

After eye contact: Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath.;

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

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Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Advice for firefighters:

Protective equipment: Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions): Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Transfer to a disposal or recovery container. Use spark-proof tools and explosion-proof equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Minimize dust generation and accumulation. Wash hands after handling. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid generation of dust or fine particulate. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed.

SECTION 8 : Exposure controls/personal protection



Control Parameters:

No applicable occupational exposure limits

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- Appropriate Engineering controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
- Respiratory protection:** Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
- Protection of skin:** The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- Eye protection:** Safety glasses with side shields or goggles.
- General hygienic measures:** The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	White solid	Explosion limit lower: Explosion limit upper:	Not determined Not determined
Odor:	Odorless	Vapor pressure:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not determined	Relative density:	Not determined
Melting/Freezing point:	Not determined	Solubilities:	Soluble in water
Boiling point/Boiling range:	Not determined	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid,gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density: Not determined			

SECTION 10 : Stability and reactivity

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Reactivity:

Chemical stability: No decomposition if used and stored according to specifications.

Possible hazardous reactions:

Conditions to avoid: Store away from oxidizing agents, strong acids or bases.

Incompatible materials: Oxidizers, sulfuric and nitric acid. Strong acids. Strong bases.

Hazardous decomposition products: Oxides of carbon and irritating and toxic gases/fumes. Carbon oxides (CO, CO₂).

SECTION 11 : Toxicological information

Acute Toxicity:		
Oral:	6730 mg/kg	LD50 orl-rat:
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Ocular:	Section 2	Classified as an eye irritant
Sensitization:	No additional information.	
Single Target Organ (STOT):	No additional information.	
Numerical Measures:	No additional information.	
Carcinogenicity:	No additional information.	
Mutagenicity:	No additional information.	
Reproductive Toxicity:	No additional information.	

SECTION 12 : Ecological information

Ecotoxicity

Fish: LC50 (96h) L. macrochius: 1516 mg/L

Persistence and degradability: Readily degradable in the environment.

Bioaccumulative potential:

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14 : Transport information

UN-Number

Not Regulated.

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UN proper shipping name

Not Regulated.

Transport hazard class(es)

Packing group: Not Regulated

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)**SARA Section 311/312 (Specific toxic chemical listings):**

Acute

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients is listed

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

None of the ingredients is listed

Proposition 65 (California):**Chemicals known to cause cancer:**

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada**Canadian Domestic Substances List (DSL):**

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

77-92-9 Citric acid, anhydrous

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information

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contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

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