REAGENT®
CHEMICAL

Reagent Chemical & Research, Inc.

115 US HIGHWAY 202 • RINGOES, NEW JERSEY 08551
OFFICE: (908) 284-2800 • FAX: (908) 284-2113

April 22, 2016

Division of Environmental Protection
Division of Air Quality
Attn: Beverly McKeone
601 - 57th Street
Charleston, WV 25304

RE: Class 1 Administrative Amendment for Air Permit
Due to Equipment Removal, Permit # R13-1789C

Dear Beverly McKeone:

In response to our recent telephone conversation, I am writing this letter to you to request a class 1 administrative amendment to the air permit for Reagent Chemical's facility located in Institute, WV.

The current air permit, Permit # R13-1789C - Issue Date December 29, 2011, is the permit that Reagent Chemical would like to amend. A removal of a piece of equipment is the reason for the amendment request.

Reagent Chemical would like to remove the scrubber that services an area of inactivity at the facility. Reagent Chemical proposes to remove the scrubber identified in the permit as 2C. All other equipment that had been serviced by this scrubber, which includes some inactive storage tanks and process equipment, will be mothballed in place.

I have attached copies of the current permit pages 1 thru 3, with the proposed eliminations identified that would result from this removal of equipment. I have also enclosed an executed Permit Determination form with a permit modification narrative, a current MSDS, a plot plan and location map, the WV business certificate, a block diagram from the previous permit identifying the items to the removed from the permit and a block diagram for the proposed future emission points.

If you have any questions or comments, or if anything further is needed, please feel free to call me at (908) 284-2800.

Thank you,,

Robert J. Dritschel, CHMM
Director of Regulatory Affairs

Attachment: Permit R13-1789B, pages 1-3.
cc: D. Maciszkiewicz - Reagent Chemical, Institute, WV

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

PERMIT DETERMINATION FORM (PDF)

FOR AGENCY USE ONLY: PLANT I.D. # _____

PDF # _____ PERMIT WRITER: _____

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
Reagent Chemical & Research, Inc.

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):
Reagent Chemical - Institute

3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:
424690

4A. MAILING ADDRESS:
115 US Hwy 202 Ringoes, NJ 08551

4B. PHYSICAL ADDRESS:
Rte 25 Institute, WV 25112

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE **MAP** AS **ATTACHMENT A**):
Adequate to Route 25, next to Interstate 64 Institute exchange

5B. NEAREST ROAD:
Route 25

5C. NEAREST CITY OR TOWN:
Institute

5D. COUNTY:
Kanawha

5E. UTM NORTHING (KM):
4248

5F. UTM EASTING (KM):
432

5G. UTM ZONE:
17

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:
Robert Dritschel

6B. TITLE:
Dir of Regulatory Affairs

6C. TELEPHONE:
908-284-2800

6D. FAX:
908-284-0374

6E. E-MAIL:
bdritschel@reagentchemical.

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):
039 - 00071

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY):
R13-1789C

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:
No

8A. TYPE OF EMISSION SOURCE (CHECK ONE):
☐ NEW SOURCE ☒ ADMINISTRATIVE UPDATE
☐ MODIFICATION ☐ OTHER (PLEASE EXPLAIN IN 11B)

8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?
☒ YES ☐ NO

9. IS *DEMOLITION* OR PHYSICAL *RENOVATION* AT AN EXISTING FACILITY INVOLVED? ☐ YES ☒ NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:
06/01/2016

10B. DATE OF ANTICIPATED START-UP:
Currently Operating

11A. PLEASE PROVIDE A **DETAILED PROCESS FLOW DIAGRAM** SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS **ATTACHMENT B.**

11B. PLEASE PROVIDE A **DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.**

12. PLEASE PROVIDE **MATERIAL SAFETY DATA SHEETS (MSDS)** FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS **ATTACHMENT D.** FOR CHEMICAL PROCESSE, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. **REGULATED AIR POLLUTANT EMISSIONS:**

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

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

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

POLLUTANT	**HOURLY PTE** (LB/HR)	**YEARLY PTE** (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM		
PM_{10}		
VOCs		
CO		
NO_x		
SO_2		
Pb		
HAPs (AGGREGATE AMOUNT)	No Change	
TAPs (INDIVIDUALLY)*		
OTHER (INDIVIDUALLY)*		

* ATTACH ADDITIONAL PAGES AS NEEDED

RECEIVED
APR 25 2016
WV DEP - DIV OF AIR QUALITY

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

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

14. **CERTIFICATION OF DATA**

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

SIGNATURE OF RESPONSIBLE OFFICIAL: _____

TITLE: DIRECTOR OF REGULATORY AFFAIRS DATE: 04/22/2016.

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

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

☒ **ATTACHMENT A** ☒ **ATTACHMENT B** ☒ **ATTACHMENT C** ☒ **ATTACHMENT D** ☒ **ATTACHMENT E**

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

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

www.dep.wv.gov/daq

West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Class I Administrative Update Permit

R13-1789C

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45 C.S.R. 13 — Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
Reagent Chemical & Research, Inc.
Institute
039-00071

John A. Benedict
Director

Issued: December 29, 2011 • Effective: December 29, 2011

This permit will supercede and replace Permit R13-1849B.

Facility Location: Institute, Kanawha County, West Virginia
Mailing Address: 115 US Highway 202; Ringoes, NJ 08551
Facility Description: HCl Distribution Facility
NAICS Codes: 424690
UTM Coordinates: 432 km Easting • 4248 km Northing • Zone 17
Permit Type: Class I Administrative Update
Description of Change:

Decrease total hydrochloric acid throughput caused by elimination of the supply of the untreated HCl.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

The source is not subject to 45CSR30.

IN ACCORDANCE WITH THE PERMIT APPLICATION AND ITS AMENDMENTS, THIS PERMIT IS LIMITED AS FOLLOWS:

A. SPECIFIC REQUIREMENTS

REMOVE

1. Maximum emissions to the atmosphere from Emission Point ID No. 1E following the hydrogen chloride (HCl) water scrubber (Control Device ID No. 2C) and carbon adsorption system (Equipment ID No. 1C) shall not exceed the following:

Chemical	Maximum Emission Rate	
	Hourly (lb/hr)	Annual (TPY)
Hydrogen Chloride (HCl)	0.01	0.01

2. Maximum emissions to the atmosphere at Emission Point ID No. 2E following the HCl water scrubber (Control Device ID No. 4C) shall not exceed the following:

Chemical	Maximum Emission Rate	
	Hourly (lb/hr)	Annual (TPY)
Hydrogen Chloride (HCl)	0.01	0.01

3. The HCl water scrubber (Control Device ID No. 4C) shall be maintained and operated so as to reduce HCl emissions by 99.8% by weight or more.

REMOVE

4. The concentration of HCl acid vapor vented through Emission Point ID No. 1E shall not exceed 14.18 milligrams per dry stand cubic meter (mg/dscm).

5. The concentration of HCl acid vapor vented through Emission Point ID 2E shall not exceed 14.18 mg/dscm.

REMOVE

6. The HCl scrubber (Control Device ID No. 1C) utilized to control emissions of HCl vapors shall be operated at a minimum liquor flow rate of 2 gallons per minute.

7. The HCl scrubber (Control Device ID No. 4C) utilized to control emissions of HCl vapors shall be operated at a minimum liquor flow rate of 3 gallons per minute.

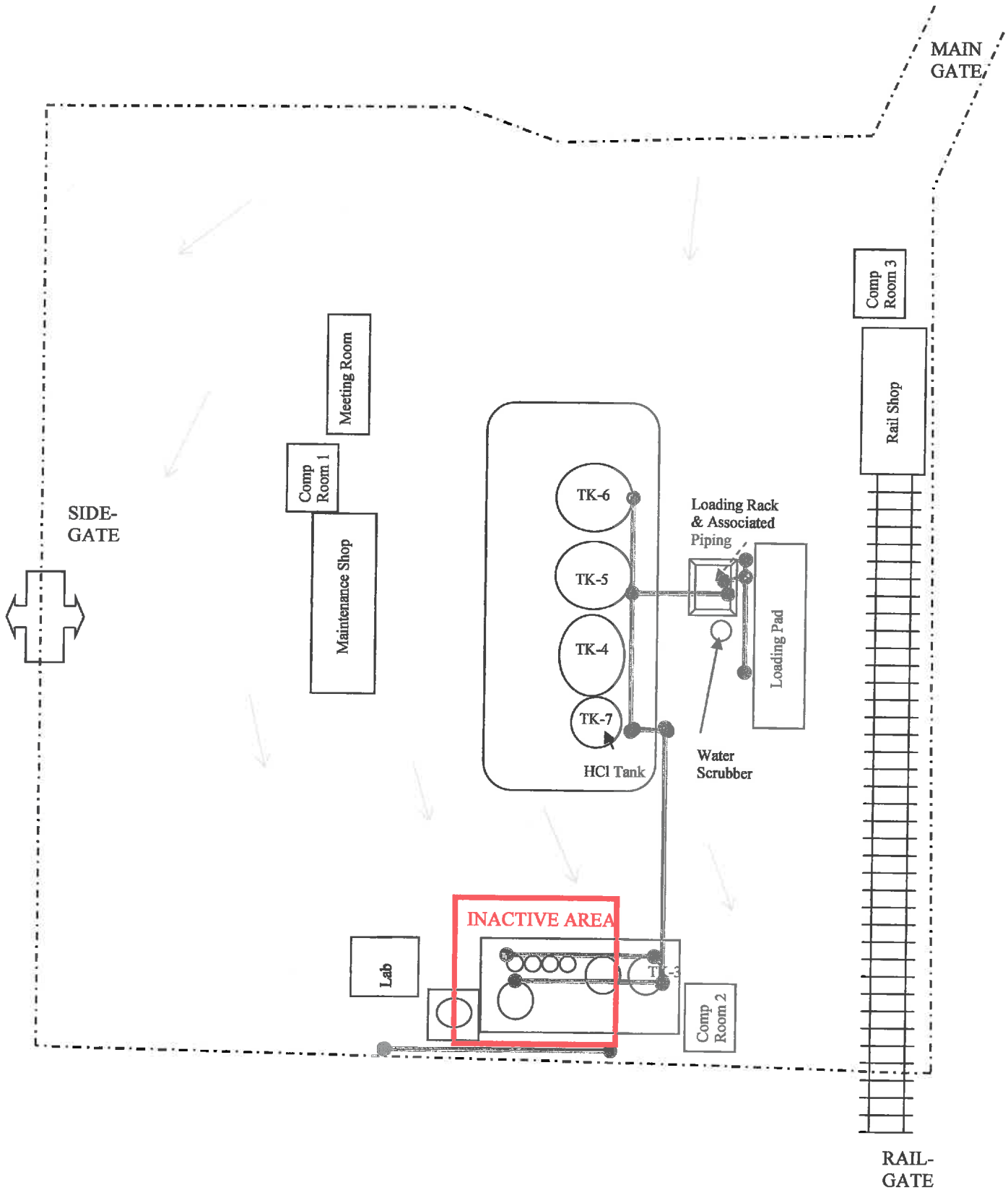
REMOVE

8. The maximum fill rate/throughput of untreated (raw) HCl to tank TK-1B shall not exceed 45 gallons per minute.

9. The maximum fill rate/throughput of treated HCl to tank TK-7 shall not exceed 125 gallons per minute.

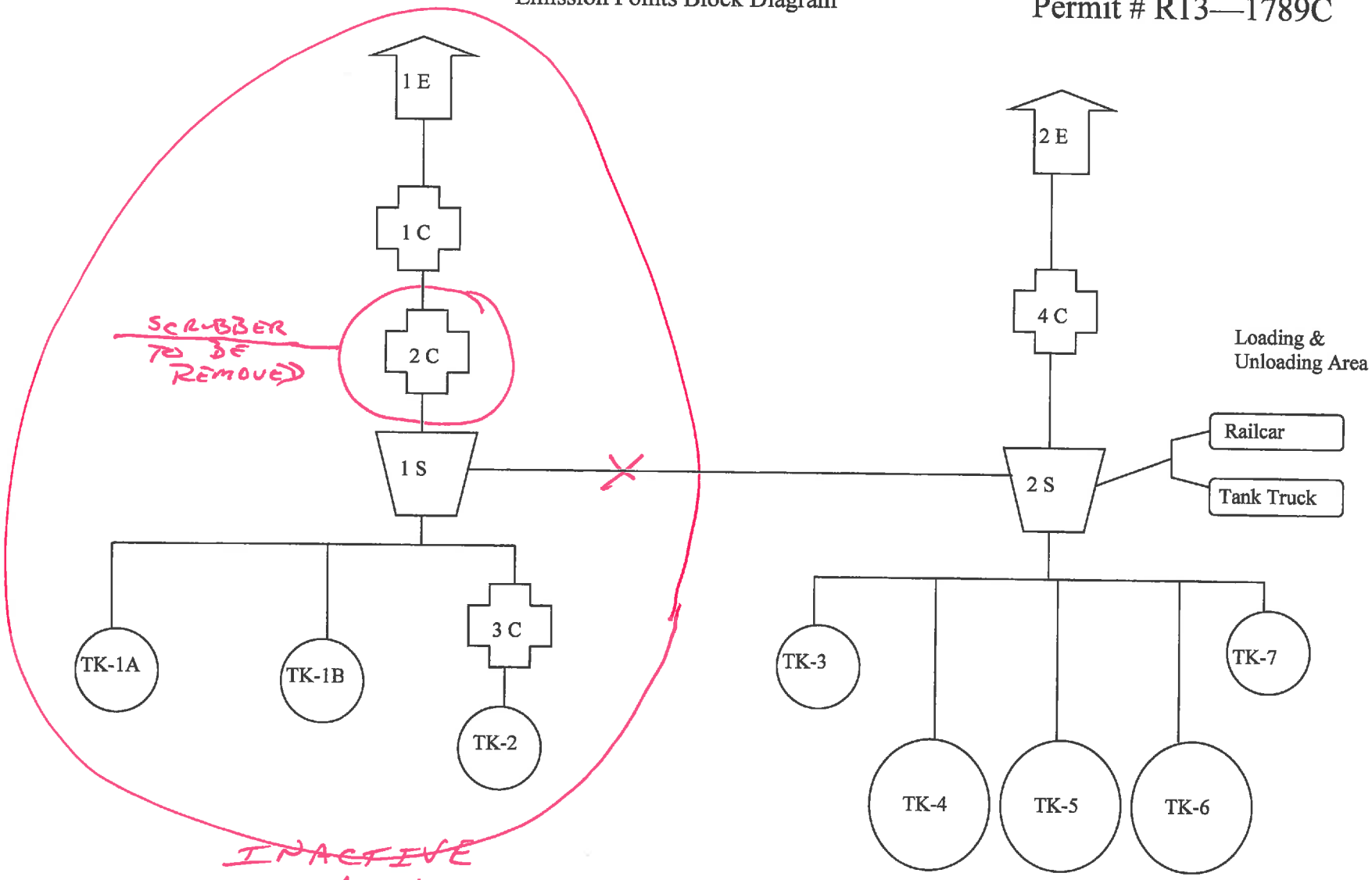
10. The throughput of off-site treated HCl to be unloaded for storage to the facility from tank trucks and railcars shall not exceed 20,000,000 gallons/year (based on 1 jumbo railcar/week, 5 days per week, and 52 weeks/yr). Annual throughput shall be based on a 12-month rolling total.

11. Railcar air pad venting of HCl laden air to the HCl water scrubber (Control Device ID No. 4C) to reduce railcar pressure (25 psig maximum) to 0 psig (atmospheric pressure) shall take a minimum of two (2) hours to complete.


MAIN GATE
SIDE-GATE
Meeting Room
Comp Room 1
Maintenance Shop
Comp Room 3
Rail Shop
TK-6
TK-5
TK-4
TK-7
HCl Tank
Loading Rack & Associated Piping
Loading Pad
Water Scrubber
INACTIVE AREA
Lab
Comp Room 2
RAIL-GATE

INSTITUTE, WV FACILITY
Emission Points Block Diagram

Permit # R13—1789C

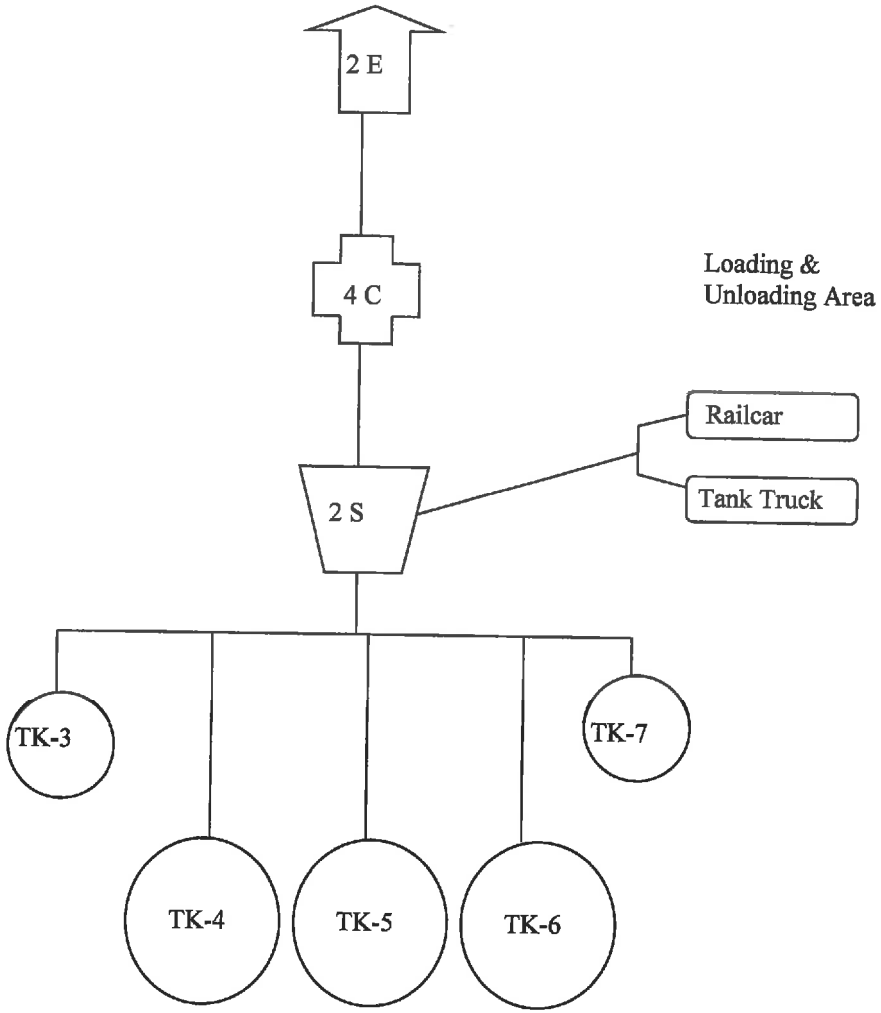


1S & 2S = Combined Source
1C = Carbon Drum
3C = Carbon Pot
2C & 4C = Wet Scrubbers
1E & 2E = Emission Points

Request Removal From Permit

INSTITUTE, WV FACILITY
Emission Points Block Diagram

Amendment Requested



TK-# - Storage Tanks
2S = Combined Source
4C = Wet Scrubber
2E = Emission Points

Process Description for Institute, Facility

Operation 1 - Railcar Unloading

The contents of railroad tank cars, 35.21% Hydrochloric Acid solution, is pumped directly into a storage tank, using a 3 inch transfer line. At the same time, 26.74 CFM of air displaced from the storage tank is transferred directly back to the railcar being emptied. The loading/unloading lines terminate with the vent lines to the packed tower water scrubber (4C).

Operation 2 - Tank Truck Loading

5000 gallons of 35.21% Hydrochloric Acid solution, is pumped at a rate of 200 gpm directly into the tank truck using a 3 inch transfer line. At the same time, 26.74 CFM of air displaced from the tank truck is transferred directly back to the storage tank being emptied. Although the loading/ unloading lines terminate with the vent lines to the packed tower water scrubber, (4C) essentially there are no vapors emitted to the atmosphere during this operation.

Safety Data Sheet
GHS-Compliant
May be used to comply with
OSHA's Hazard Communication Standard
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

REAGENT CHEMICAL & RESEARCH, INC.
115 US Hwy 202 Ringoes, NJ 08551

PRODUCT IDENTITY
Hydrochloric Acid, 20° or 22° Baume

Safety Data Sheet Revision Date - June 11, 2015

Section 1 - Identification

Product Name Hydrochloric Acid	CAS # 7647-01-0
Synonym Muriatic Acid	Chemical Formula HCl
Chemical Name Hydrochloric Acid Solution	Chemical Family Inorganic Acid
Product Use Acidification, pH Adjustment	
Manufacturer/Supplier Name Reagent Chemical & Research, Inc.	Address 115 US Hwy 202 Ringoes, NJ 08551
General Information 1-908-284-2800	Country United States
Emergency Telephone 1-409-899-3400	Transportation Emergency Number CHEMTREC 1-800-424-9300

Section 2 - Hazards Identification

GHS Classification:

HEALTH	PHYSICAL
Serious Eye Damage - Category 1	Corrosive to Metals - Category 1
Skin Corrosion - Category 1 B	
Sensitization, Respiratory - Category 1	
Specific Target Organ Toxicity (single exposure) - (Respiratory System) - Category 2	
Specific Target Organ Toxicity (repeated exposure) - (Respiratory System) - Category 2	

GHS Label Elements:

SYMBOLS: corrosion, health hazard

Signal Word: DANGER

Section 2 - Hazards Identification (continued)

GHS Label ELEMENTS:

Hazard Statements

Causes severe skin burns & eye damage

May cause allergic or asthmatic symptoms or breathing difficulties if inhaled

May cause damage to organs (respiratory system) if inhaled

May cause damage to organs (respiratory system) through prolonged or repeated exposure

May be corrosive to metals

Precautionary Statements

PREVENTION

Do not breathe dusts/fume/gas/mist/vapors/spray

Wash face, hands and exposed skin thoroughly after handling

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

In case of inadequate ventilation, wear respiratory protection

Do not eat, drink or smoke when using this product

Keep only in original container

RESPONSE

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call emergency medical professional or Poison Control Center

Specific treatment (See Section 4)

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

Absorb spillage to prevent material damage

STORAGE

Store locked up

Store in corrosive resistant container/container with resistant inner liner

DISPOSAL

Dispose of contents/container in accordance with federal and state regulations

Section 3 - Composition / Information on Ingredients

Component Description	Percent	CAS #
Hydrogen Chloride	26.00 - 37.00	7647-01-0
Water	63.00 - 74.00	7732-18-5

EXPOSURE LIMITS/REGULATORY INFORMATION

Substance	PEL	TLV	STEL	TWA	CEILING
Hydrogen Chloride	C-7 mg/m3	C-2 ppm	50 ppm	N/D	5 ppm
Water	N/D	N/D	N/D	N/D	N/D

N/D - Not Determined C = Ceiling Level

Section 4 - First Aid Measures

General

If a known exposure occurs or is suspected, immediately initiate the recommended procedures below. Simultaneously contact a physician, or the nearest Poison Control Center. Inform the person contacted of the type and extent of exposure, describe the victim's symptoms and follow the advice given. For additional information, call day or night, Reagent Chemical (409) 899-3400 or Chemtrec (800) 424-9300.

Inhalation

Remove from contaminated atmosphere. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration, which may be supplemented by the use of a bag-mask respirator, or a manually-triggered, oxygen supply capable of delivering 1 liter/second or more. If the victim is breathing, oxygen may be administered from a demand-type or continuous-flow inhalator, preferably with a physician's advice. Contact a physician immediately.

Eye Contact

Immediately flush the eyes with large quantities of running water for 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. DO NOT attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used. Continue the flushing for an additional 15 minutes if the physician is not available.

Skin Contact

Immediately remove contaminated clothing under a safety shower. Flush all affected areas with large amounts of water for 15 minutes. DO NOT attempt to neutralize with chemical agents. Obtain medical advice.

Ingestion

DO NOT induce vomiting. Immediately give large quantities of water or milk, if available. If vomiting does occur, give fluids again. Never give anything by mouth to an unconscious person. Call a physician or the nearest Poison Control Center.

Medical Conditions Generally Aggravated by Exposure

Hydrogen Chloride will aggravate breathing disorders

Note to Physician

Attending Physician should treat exposed patients symptomatically

Section 5 - Fire Fighting Measures

Extinguishing Method

Not Applicable, use water to dilute spills and to flush them away from ignition sources.

Unusual Fire and Explosion Hazards

Non-flammable, but Hydrochloric Acid reacts with metals.

Special Firefighting Procedures

Non-flammable, but Hydrochloric Acid reacts with all metals, except gold and platinum, with rapid evolution of Hydrogen which is flammable and explosive in air. Firefighters exposed to Hydrochloric Acid vapors should wear Scott Air-Pak, or equivalent. Hydrogen Chloride vapors are extremely irritating to the respiratory tract and may cause breathing difficulty.

Section 6 - Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled

Spills or discharges into the environment involving large quantities of Hydrochloric Acid should be controlled and cleaned-up according to a pre-determined, affirmative written Spill Prevention and Control Program. For assistance in developing a SPCP contact your nearest Reagent Sales Office. Refer to Section 15 for spill/release reporting information.

Spills should be handled immediately by neutralization and dilution of the spilled product by the use of Soda Ash (Sodium Carbonate), Lime (Calcium Hydroxide), or Limestone (Calcium Carbonate) with large amounts of water. For an interior (inside a closed space) spill be aware that the use of Soda Ash, Lime and Limestone will evolve heat and carbon dioxide and that ample ventilation must be provided.

Waste Disposal

Under Federal RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether the product falls under RCRA as a hazardous waste. This is because product uses, transformations, mixtures, etc. may render the resulting end-product hazardous.

Container Disposal

Containers should be cleaned of residual product before disposal. Empty containers should be disposed of in accordance with all applicable laws and regulations.

Section 7 - Handling and Storage

Handling

Chemical goggles and full face shield must be worn at all times by personnel exposed to or handling Hydrochloric Acid. The use of a NIOSH approved cartridge respirator or a Scott Air-Pak should be used by all personnel exposed.

Storage

Store containers in a cool, dry location away from direct sunlight, sources of intense heat, or where freezing may occur. Store material in acid-proof container. Keep container tightly closed when not in use. Keep container away from incompatible materials. All loading, unloading, and storage equipment must be inspected prior to any transfer operations are initiated.

Section 7 - Handling and Storage (continued)

General Comments

Impervious clothing, gloves, footwear and head gear must be worn at all times by personnel exposed to or handling Hydrochloric Acid.

Precautions to be Taken in Handling and Storage

Make sure all personnel involved in housekeeping and spill clean-up follow good Industrial Hygiene practices and wear proper protective equipment.

Section 8 - Exposure Controls / Personal Protection

EXPOSURE LIMITS

Substance	PEL	TLV	STEL	TWA	CEILING
Hydrogen Chloride	C-7 mg/m3	C-5 ppm	50 ppm	N/D	5 ppm
Water	N/D	N/D	N/D	N/D	N/D

N/D - No Data Available C = Ceiling Level

Respiratory Protection

Maintain airborne contaminate levels below listed guidelines. Use with adequate ventilation. Use a mechanical fan or vent area to scrubber. Use NIOSH approved respiratory protection if exposure limits are exceeded.

Ventilation		
	Local Exhaust: If PEL exceeded	Special: Vent fumes to appropriate scrubber
	Mechanical (General): If PEL exceeded	Other: Not Applicable

Skin Protection

Wear neoprene rubber gloves to minimize skin contact. Additional protection may be necessary to prevent skin contact including use of apron, face shield, boots or full body protection. A safety shower should be located in the work area.

Eye Protection

Splash goggles or safety glasses. Face shields are recommended. Eye-wash stations should be available where eye contact can occur.

Other Protection

Use body protection appropriate for task. An apron or other impermeable body protection is suggested. Full body chemical protection is recommended for emergency response procedures.

Section 9 - Physical and Chemical Properties

Boiling Point	230 F	Specific Gravity (H2O = 1)	1.13 - 1.19
Vapor Pressure (mm Hg)	50 - 60 mm	Freezing Point	.-12 F to -63 F
Vapor Density (AIR = 1)	No Data Available	Density	9.48 - 9.61
pH	< 1	Odor Threshold	0.25 - 10 ppm
Flash Point	Not Flammable	Evaporation Rate	No Data Available
Flammability	Not Flammable	Flammability Limits	Not Flammable
Auto Ignition Temperature	Not Flammable	Partition Coefficient	No Data Available
Viscosity (at 15 C)	2.3 mPa.s	Decomposition Temperature	No Data Available

Solubility in Water

miscible

Appearance and Odor

Clear/Slightly yellow with a sharp pungent odor

Section 10 - Stability and Reactivity

Stability			Conditions to Avoid
	Unstable		Hydrochloric Acid is extremely reactive. Avoid contact with
	Stable	X	metal surfaces and oxidizing agents.

Incompatibility (Materials to Avoid)

Hydrochloric Acid is chemically stable when properly contained and handled. It is a strong mineral acid and reacts with many metals and metal oxides and hydroxides to form the equivalent metal chloride. It reacts with zeolites and other silicious compounds to form Hydrosilicic Acid; it reacts with carbonates to form Carbon Dioxide and Water. It is oxidized by Oxygen or electrolysis to form Chlorine, a lethal, poisonous gas. It reacts with alkaline compounds to form a neutral salt. It is a hydrolyzing agent for carbohydrates, esters and other compounds. It's reaction with most metals will produce Hydrogen, an explosive gas. Violent reactions will result when Hydrochloric Acid Reacts with acetic anhydride, 2-aminoethanol, ammonium hydroxide, calcium phosphide, chlorosulfonic acid, ethylene diamine, ethylene imine, oleum (fuming sulfuric acid), perchloric acid, beta propiolactone, propylene oxide, sodium hydroxide, sulfuric acid, uranium phosphide and vinyl acetate. This listing is not all-inclusive.

Hazardous Decomposition or By-products

Extreme heat may cause the product to decompose, producing toxic fumes which may include chlorine compounds.

Hazardous Polymerization			Conditions to Avoid
	May Occur		Extreme heat and contact with incompatible materials
	Will Not Occur	X	

Section 11 - Toxicological Information

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	Yes	Yes

Health Hazards (Acute and Chronic)

Hydrogen Chloride, both as a gas and in a solution as Hydrochloric Acid, is a corrosive substance and can cause severe and painful burns on contact with any part of the body or if taken internally. The mucous membranes of the eyes and the upper respiratory tract are especially susceptible to the injurious effects of high atmospheric concentrations of Hydrogen Chloride. The gas or vapor is so penetrating and pungent that when high concentrations do occur, those exposed should immediately leave the contaminated area.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No Data Available	No Data Available	No Data Available

Signs and Symptoms of Exposure

Exposure to Hydrochloric acid may cause severe burns at the contact points

Medical Conditions Generally Aggravated by Exposure

Exposure to fumes may aggravate dermatitis and breathing disorders.

Section 11 - Toxicological Information (continued)

Specific Target Organ Toxicity (Single Exposure)
Respiratory System - May cause respiratory injury/irritation

Specific Target Organ Toxicity (Repeated Exposure)
Respiratory System - May cause respiratory injury/irritation

Toxicology	
Hydrogen Chloride	**Inhalation Data** Human LCLo - 1300 ppm/30 min
	Rat LC_{50} - 4701 ppm/30 min
	Oral (rabbit) LD_{50} - 900 mg/kg
	Oral (rat) LD_{50} - 700 mg/kg
	Dermal (rabbit) LD_{50} - 5010 mg/kg
	Germ Cell Mutagenicity No Data Available

Skin Corrosion/Irritation
Causes severe skin burns and eye damage pH <1

Serious Eye Damage/Irritation
Causes severe eye damage pH <1

Respiratory or Skin Sensitization
Corrosive to respiratory tract with concentrated or repeated exposures

Section 12 - Ecological Information

Ecological Toxicity
Animals exposed to hydrochloric acid solution will experience tissue damage, burns and may be killed. Plants contaminated with hydrochloric acid solutions of low pH may be adversely effected or destroyed. High concentrations have been shown to be detrimental to aquatic life. A release into a body of water will kill fish and other aquatic life.

Other Ecological Information
Hydrochloric acid is stable and found naturally in the environment. All work practices should be aimed at eliminating environmental contamination.

Chemical Fate Information
Hydrochloric acid is naturally occurring in the environment.

Other Regulatory Information
No other regulatory information is available on this product.

Section 13 - Disposal Considerations

As sold, this product, when discarded or disposed of, is a hazardous waste according to Federal regulations (40 CFR 261). It is listed as Hazardous Waste Number D002, listed due to its corrosivity. The transportation, treatment and disposal of this waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Refer to state and local statutes for any additional requirements, as they may differ from Federal laws.

Waste Disposal
Under Federal RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether the product falls under RCRA as a hazardous waste. This is because product uses, transformations, mixtures, etc. may render the resulting end-product hazardous.

Container Disposal
Containers should be cleaned of residual product before disposal. Empty containers should be disposed of in accordance with all applicable laws and regulations.

Section 14 - Transport Information

Regulated Material

Hydrochloric Acid is defined as hazardous by the US DOT and Transport Canada

North American Emergency Response Guide Book

ID # 1789 Guide #157 2008 & 2012 Revision

DOMESTIC SHIPPING INFORMATION

Proper Shipping Name	Hydrochloric Acid	Hazard Classification	Corrosive
UN/NA Identification	UN 1789	Hazard Class	Class 8
DOT Labels Required	Corrosive	Packaging Group	II

INTERNATIONAL SHIPPING INFORMATION

Proper Shipping Name	Hydrochloric Acid	Hazard Classification	Corrosive
UN/NA Identification	UN 1789	Hazard Class	Class 8
Labels Required	Corrosive	Packaging Group	II

Section 15 - Regulatory Information

U.S. Federal Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):

Chemical Name: Hydrochloric Acid CAS # 7647-01-0 RQ - 5000 lbs

Toxic Substances Control Act (TSCA):

All components of this product are included on the TSCA inventory

OSHA Hazard Communication Standard Classification:

Corrosive as defined by the OSHA Hazard Communication Standard.

Clean Water Act (CWA):

Chemical Name: Hydrochloric Acid CAS # 7647-01-0 Listed as Hazardous

No chemical components listed as Priority pollutants or Toxic pollutants

Clean Air Act (CAA):

Hydrochloric acid, CAS 7647-01-0, is listed as a hazardous air pollutant (HAP)

US Environmental Protection Agency Risk Management Plan (RMP) Regulated:

No, Hydrochloric acid solution under 37% is not regulated

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 302: Hydrochloric Acid CAS # 7647-01-0 TPQ 5000 lb EPCRA RQ

SARA Section 313: Hydrochloric Acid CAS # 7647-01-0

National Sanitation Foundation Limits (ANSI/NSF Standard 60):

Maximum Drinking Water Use Concentration - 40 mg/l

Scale and Corrosion Control at Maximum 40 mg/l

State Regulations

California Safe Drinking Water Act (Prop 65) Listing:

No ingredients listed in this section

California Right to Know Act:

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

Section 15 - Regulatory Information (continued)

New Jersey Right to Know Act:

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

Chemical Name: Water CAS # 7732-18-5

Massachusetts Right to Know Act Substance List (MSL)::

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

Pennsylvania Right to Know Act Hazardous Substance List:

Chemical Name: Water CAS # 7732-18-5

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

International Regulations

Canadian Domestic Substance List (DSL) Inventory Listing:

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

Canadian Ingredient Disclosure List

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

Canadian Workplace Hazardous Materials Information System (WHMIS):

Class E: Corrosive material

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

European Inventory of Existing Chemicals (EINECS):

Chemical Name: Hydrochloric Acid EINECS # 2315957

EU Labeling in Accordance with EC Directives:

Hazard Symbols: C

EU Risk (R) and Safety (S) Phrases:

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed

R37/38: Irritating to respiratory system and skin

R41: Risk of serious damage to eyes

S36/37: Wear suitable protective clothing and gloves

S45: In case of accident or if you feel unwell, seek medical advice immediately

S53: Avoid exposure - obtain special instructions before use

S61: Avoid release to the environment. Refer to safety data sheet

Japanese Minister of International Trade and Industry (MITI) Inventory Listing:

Chemical Name: Hydrochloric Acid SECTION STRUCTURE # 1-324

Australian Inventory of Chemical Substances (AICS) Listing:

Chemical Name: Hydrochloric Acid CAS # 7647-01-0

US Census Bureau - Foreign Trade Identification

Chemical Name: Hydrochloric Acid HTS & Schedule B # 2806.10.0000

Section 16 - Other Information

Created By	MSDS Revision Date
Product Safety - 6/1/98	June 11, 2015
MSDS Revision Number	**Revision Indicator**
Revision # 011	Hazard Statement Alignment

MSDS Contact
Robert Dritschel 908-284-2800

Does Product Contain, or is Manufactured with, CFC's?
No

National Fire Protection Association (NFPA) Ratings:
Health - 3 Flammability - 0 Instability - 0 Other Hazard Information - ACID

Hazardous Material Identification System (HMIS):
Health - 3 Flammability - 0 Physical Hazard - 0 Protective Equipment - X

North American Emergency Response Guide Book
ID # 1789 Guide #157 2008 & 2012 Revision

Disclaimer of Liability

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WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
REAGENT CHEMICAL & RESEARCH INC
W VA ROUTE 25
INSTITUTE, WV 25330-0000

BUSINESS REGISTRATION ACCOUNT NUMBER: 1012-5273

This certificate is issued on: 07/20/2010

This certificate is issued by the West Virginia State Tax Commissioner in accordance with Chapter 11, Article 12, of the West Virginia Code.

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued. This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

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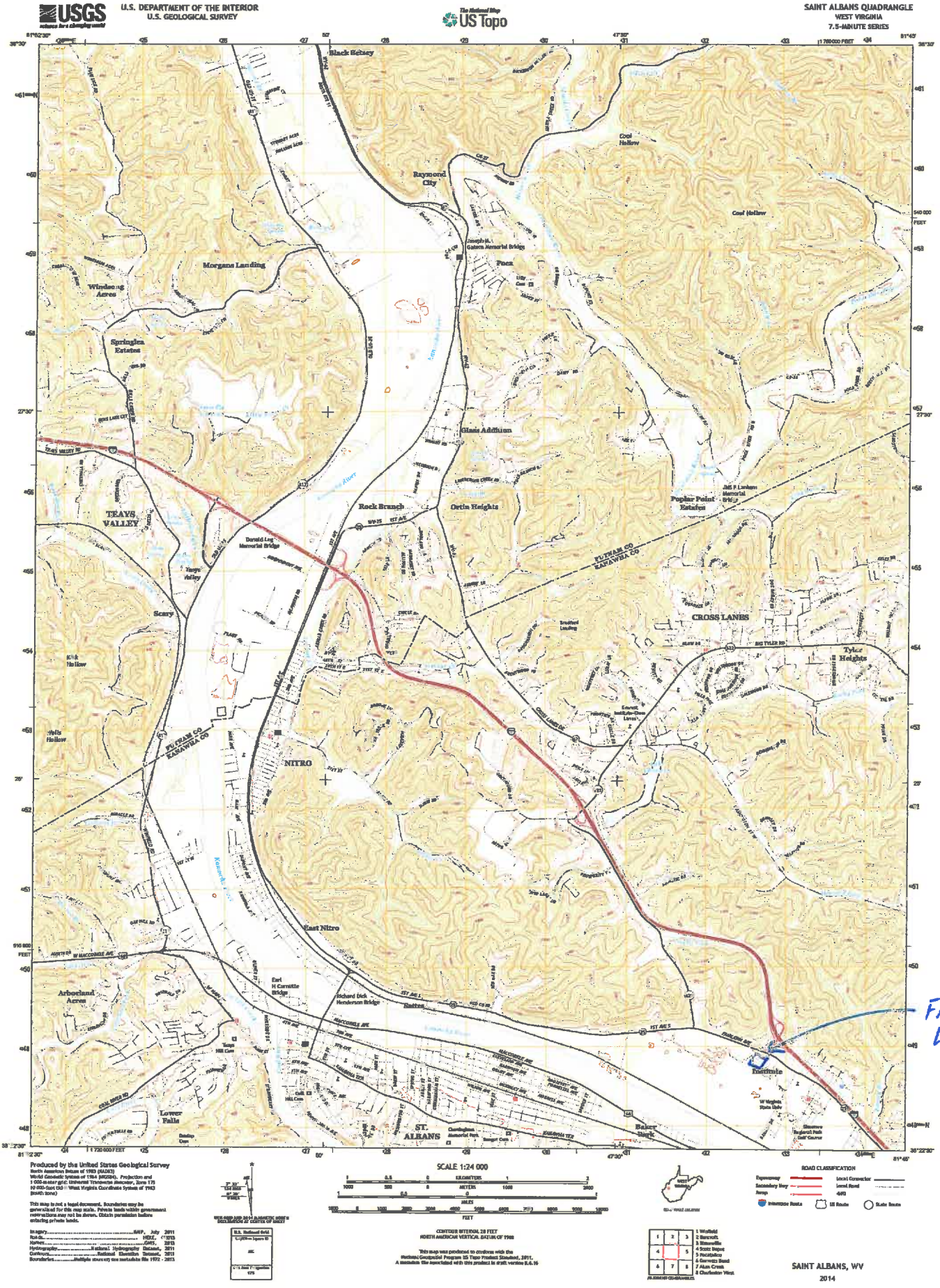
MAILED ORIGINAL TO DAVE M. 7/28/10

Google earth feet 1000 meters 600

Facility Location

Reagent Chemical & Research, Inc.
Route 25
Institute, WV



FACILITY LOCATION