January 31, 2019

Mr. Allan Batka
United States Environmental Protection Agency
Region 5 (WU-16J)
77 West Jackson Blvd.
Chicago, Illinois 60604

Re: EGT Monthly Report (in conformance with MI-163-1W-C010 & MI-163-1W-C011)

Dear Mr. Batka:

Environmental Geo-Technologies, LLC ("EGT") hereby timely submits its sixty-second Monthly Report ("MR") in conformance with the requirements of its two EPA UIC permits (#s MI-163-1W-C010 & MI-163-1W-C011).

EGT is providing all of the attached information in the same sequence as required by both subject permits, i.e. Part II.D.1 (a-i), Part III, Attachment A, and Part III, Attachment E.G.2 & E.I.

EGT did not accept any F039 waste in December, 2018 so no Page A-3 of 3 laboratory analyses are necessary to be submitted as part of this MR.

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.

We trust that you find this interim report satisfactory, however, if you have any questions or comments, please feel free to contact us.

Sincerely,

Richard J. Powals, P.E.

cc: J. Frost (EGT)

att.

rjp013119/EGTEPAMonthlyReport-December, 2018

AVERAGE INJECTION RATE

# Calculation of Average Injection Rate

CURRENT	REPORTING Y	EAR _	2018
CURRENT	REPORTING M	ONTH _	DECEMBER

Date (month, year) of the first injection into either well at the Citrin Road Facility Nov 2013

# CURRENT MONTH (all volumes in gallons)

	Injected Waste	Injected Non-Waste	Total injected
M	I-163-1W-C010, v	Vell #1-12	
Current Month	29,110	. 0	29,110
Since facility first injected			14,330,505
M	I-163-1W-C011, W	Vell #2-12	
Current Month	6	0	0
Since facility first injected			4,648,736
		Lifetime Combined	18,979,241

Conversion factors
365.25 days per year ÷ 12 months per year = 30.4375 days per month
$30.4375$ days per month $\times$ 1440 minutes per day = 43,830 minutes per month
Calculations Whole number of months of injection 60
lifetime number of months of injection × 43,830 minutes/month
= 2,627,800 minutes of injection
Lifetime combined injected volume 18,979, 241 \$2,629,800 minutes of injection
Lifetime Comomed injected volume 14,177
= 7.2 gpm average injection rate



# WELL 01 Monthly Data

Date	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Жах
	Injection	Injection	Sight Glass	Sight Glass	Annulus	Annulus	Injectate Injectate		Flow	Flow	Differentail	Differential
	Pressure	2	Level	Level	Pressure	Pressure	Hd	H		Rate	Pressure	Pressure
4214 (2040)		(Laid)	5 50 cc	\(\(\)	(F319)	(5.00)	9 64	9	_	(MILD)	(P31G)	(1316)
12/1/2010		+	52.3	23.1	0.010	0.10.3	0.61	13.0	0.0	0.0	0.2.3	013.1
12/2/2018		4.6	22.9	23.2	616.4	616.9	13.6	13.6	0.0	0.0	611.8	612.8
12/3/2018	3.7	4.2	23.0	23.1	616.2	616.8	13.6	13.6	0.0	0.0	612.4	612.8
12/4/2018	3.6	3.9	22.9	23.1	615.6	6.919	13.6	13.6	0.0	0'0	611.8	612.6
12/5/2018	3.6	3.9	22.9	23.1	615.2	615.7	13.6	13.6	0.0	0.0	611.5	612.0
12/6/2018		3.9	22.9	23.1	614.9	615.4	13.6	13.6	0.0	0.0	611.2	611.6
12/7/2018		3.7	22.9	23.1	614.6	615.1	13.6	13.6	0.0	0.0	611.1	611.5
12/8/2018		8.6	22.9	23.1	614.1	614.7	13.6	13.6	0.0	0.0	605.6	611.3
12/9/2018		9.6	22.9	23.1	613.6	614.2	13.6	13.6	0.0	0.0	604.5	610.5
12/10/2018	3.9	4.7	22.9	23.1	613.5	613.9	13.6	13.6	0.0	0.0	0.609	8.609
12/11/2018	3.6	4.4	6'72	23.1	613.3	613.6	13.6	13.6	0.0	0.0	609.1	6.609
12/12/2018		4.5	22.9	23.1	613.1	613.5	13,6	13.6	0.0	0.0	608.8	8.609
12/13/2018		3.9	22.9	23.1	613.2	613.5	13.6	13.6	0.0	0.0	609.3	6.609
12/14/2018		3.9	23.0	23.1	613.1	613.4	13.6	13.6	0.0	0.0	609,2	2.609
12/15/2018		3.9	22.9	23.1	613.0	613.4	13.6	13.6	0.0	0.0	609.2	2.609
12/16/2018		4.0	22.9	23.1	612.7	613.1	13.6	13.6	0.0	0'0	2'809	609.4
12/17/2018		828.3	22.0	23.4	502.6	1134.3	13.6	13.6	2.6	5'5/	170.1	7.867
12/18/2018	5.3	851.4	22.0	22.3	788.8	1172.2	13.6	13.6	4.0	0.0	285.2	834.9
12/19/2018	5.3	967.6	22.0	22.3	779.6	1166.2	13.6	13.6	5.0	19.4	276.8	836.1
12/20/2018	114.9	881.0	22.1	22.3	811.8	1165.7	13.6	13.6	5.3	18.1	267.3	725.8
12/21/2018		877.2	22.1	22.3	808.7	1174.6	13.6	13.6	3.7	6'21	271.5	838.0
12/22/2018		2.7	22.1	22.3	840.5	844.1	13.6	13.6	0.0	0.0	837.9	841.7
12/23/2018		2.5	22.1	22.3	844.0	845.1	13.6	13.6	0.0	0'0	841.6	842.8
12/24/2018	2.2	2.5	22.1	22.3	845.0	845.3	13.6	13.6	0.0	0.0	842.6	843.1
12/25/2018		2.4	22.0	22.3	845.1	845.4	13.6	13.6	0.0	0.0	842.8	843.2
12/26/2018		2.4	22.1	22.3	845.0	845.6	13.6	13.6	0.0	0.0	842.7	843.4
12/27/2018		2.8	22.1	22.3	845.0	845.5	13.6	13.6	0.0	0.0	842.2	843.3
12/28/2018		2.9	22.1	22.3	845.0	845.4	13.6	13.6	0.0	0.0	842.1	842.8
12/29/2018		2.6	22.1	22.3	844.5	845.2	13.6	13.6	0.0	0.0	842.0	842.8
12/30/2018	2.3	2.6	22.0	22.3	844.0	844.6	13.6	13.6	0.0	0.0	841.6	842.2
12/31/2018		2.9	22.0	22.3	843.6	844.1	13.6	13.6	0.0	0.0	840.8	841.8

# Circle Chart Index

Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

# Chart Recorder #1

Channel #1

Blue Pen - Well 1 Injection Pressure (chart value x 30)

Channel #2

Red Pen – Well 1 Annulus Pressure (chart value x 30)

Channel #3

Green Pen - Well 1 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 1 Annulus Tank Level (chart value x 0)

## Chart Recorder #2

Channel #1

Blue Pen – Well 2 Injection Pressure (chart value x 30)

Channel #2

Red Pen – Well 2 Annulus Pressure (chart value x 30)

Channel #3

Green Pen - Well 2 Flow Rate (chart value x 4)

Channel #4

Black Pen – Well 2 Annulus Tank Level (chart value x 0)

## Chart Recorder #3

Channel #1

Blue Pen - Injection pH Well 1 & 2 (chart value + 3.3)

Channel #2

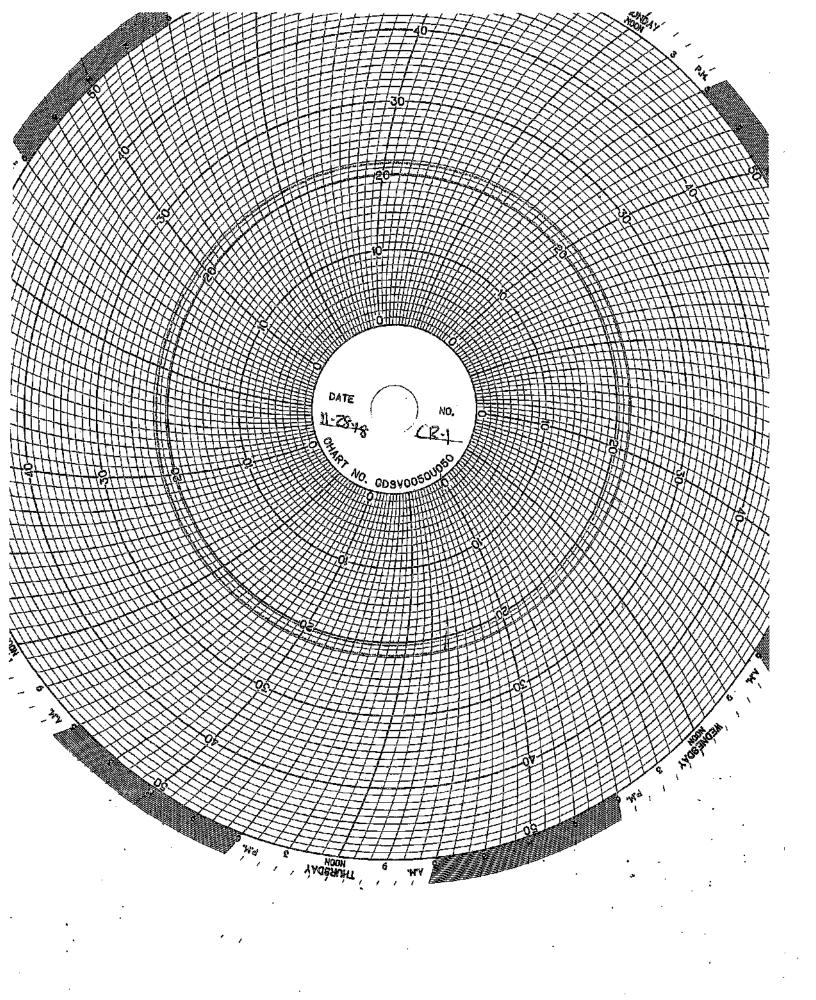
Red Pen – Weil 1 Monthly Volume (chart value x 100,000)

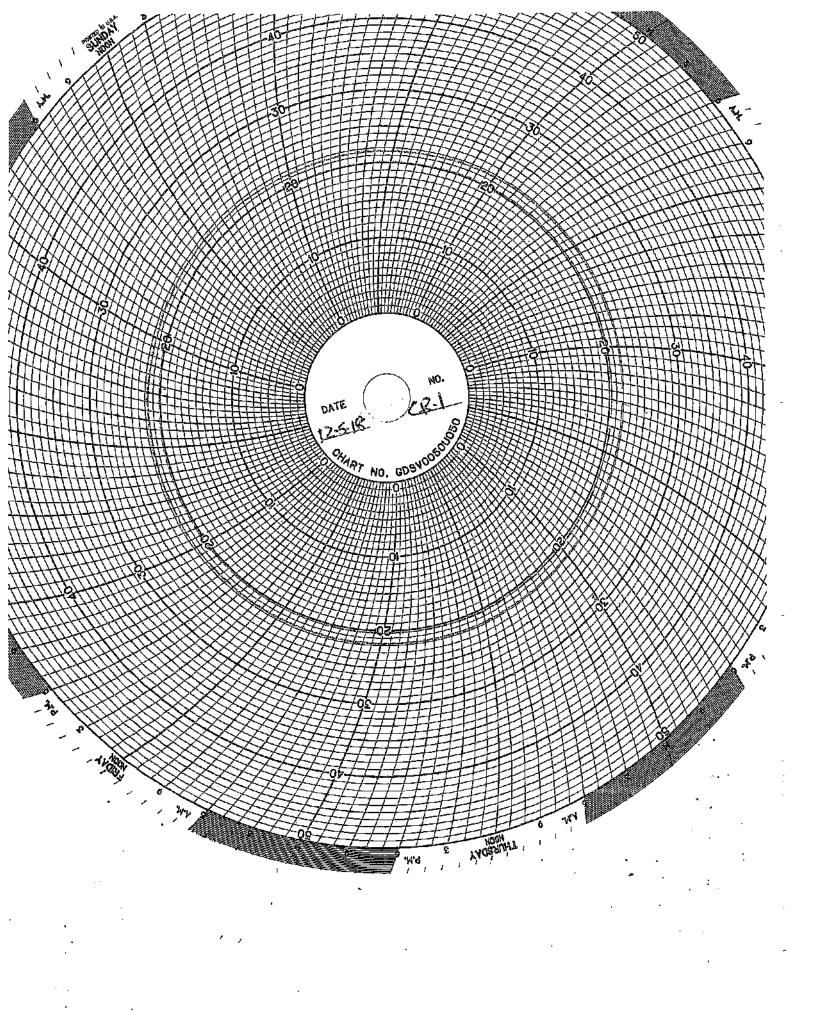
Channel #3

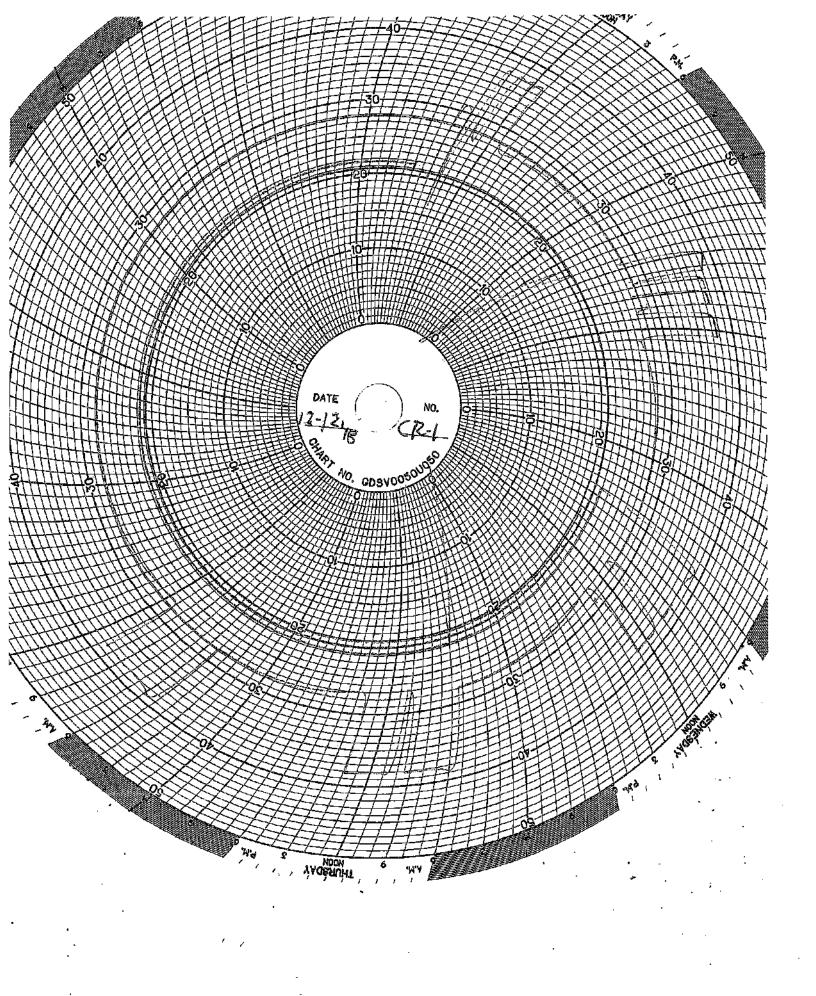
Green Pen – Well 2 Monthly Volume (chart value x 100,000)

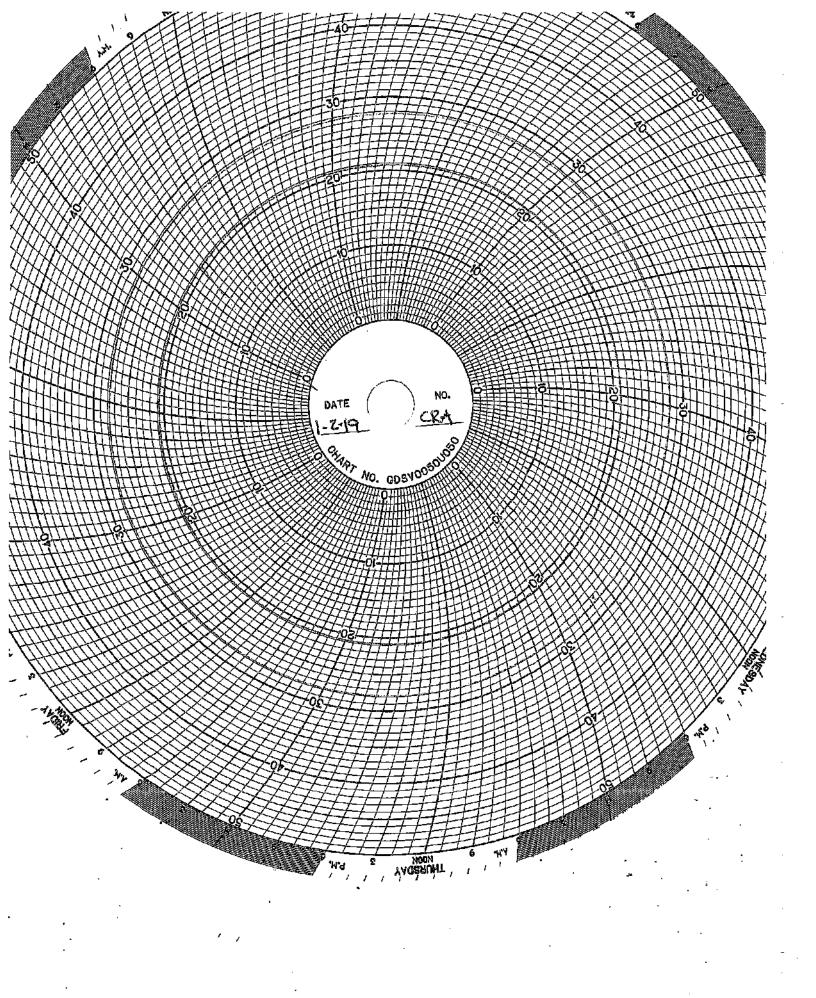
Channel #4

Black Pen – Temperature (chart value x 0)









# **WELL 2 DATA**

# Well 02 Monthly Data

		7 P P	<u> </u>	₩ax		INGX		Max		Her		Yes
	Injection	Injection	Sight Glass	Sight Glass	Annulus	Annulus	Injectate	Injectate	Flow	Flow	Differentail	Differential
	Pressure (PSIG)			vel (r	Pressure (PSIG)	Pressure (PSIG)	Ha	Hd	Rate (GPM)	Rate (GPM)	Pressure (PSIG)	Pressure (PSIG)
12/1/2018	_	0.0	13.7	3.8	5.0	5.0	13.6	13.6	0.0	0'0	5.0	5.0
12/2/2018	0.0	0.0	13.3	14.2	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/3/2018	0:0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/4/2018	0.0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/5/2018	0.0	0.0	13.6	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/6/2018		0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/7/2018	0.0	0.0	13.6	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/8/2018	0.0	0.0	13.6	13.7	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/9/2018	0.0	0.0	13.6	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	2.0
12/10/2018	0.0	0'0	13.6	13.7	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/11/2018	0.0	0.0	13.6	13.7	5.0	5.0	13.6	13.6	0.0	0'0	5.0	5.0
12/12/2018	0.0	0.0	13.6	13.7	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/13/2018	0.0	0.0	13.6	13.8	9.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/14/2018	0.0	0.0	13.3	14.2	5.0	5.0	13.6	13.6	0.0	0.0	2.0	5.0
12/15/2018	0.0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/16/2018	0.0	0.0	13.3	14.1	5.0	5.0	13.6	13.6	0.0	0.0	5.0	2.0
12/17/2018	0.0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	2.0
12/18/2018	0.0	0.0	13.6	13.8	5.0	5.0	13.6	13.6	0.0	0.0	2.0	2.0
12/19/2018	0.0	0.0	13.3	14.2	5.0	5.0	13.6	13.6	0.0	0.0	5.0	2.0
12/20/2018	0.0	0.0	13.4	14.2	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/21/2018	0.0	0.0	13.3	14.2	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/22/2018	0.0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5,0	5.0
12/23/2018	0.0	0.0	13.7	13.8	5.0	2.0	13.6	13.6	0.0	0.0	5.0	2.0
12/24/2018	0.0	0.0	13.7	13.7	5.0	2.0	13.6	13.6	0.0	0.0	2.0	5.0
12/25/2018	0.0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/26/2018	0.0	0.0	13.3	14.1	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/27/2018	0.0	0.0	13.4	14.2	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/28/2018	0.0	0.0	13.4	13.9	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/29/2018	0.0	0.0	13.7	13.8	2.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0
12/30/2018	0.0	0.0	13.7	13.8	5.0	2.0	13.6	13.6	0.0	0.0	5.0	5.0
12/31/2018	0.0	0.0	13.7	13.8	5.0	5.0	13.6	13.6	0.0	0.0	5.0	5.0

# Circle Chart Index

Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

## Chart Recorder #1

Channel #1

Blue Pen - Well 1 Injection Pressure (chart value x 30)

Channel #2

Red Pen - Well 1 Annulus Pressure (chart value x 30)

Channel #3

Green Pen – Well 1 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 1 Annulus Tank Level (chart value x 0)

## Chart Recorder #2

Channel #1

Blue Pen - Well 2 Injection Pressure (chart value x 30)

Channel #2

Red Pen - Well 2 Annulus Pressure (chart value x 30)

Channel #3

Green Pen – Well 2 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 2 Annulus Tank Level (chart value x 0)

# Chart Recorder #3

Channel #1

Blue Pen - Injection pH Well 1 & 2 (chart value ÷ 3.3)

Channel #2

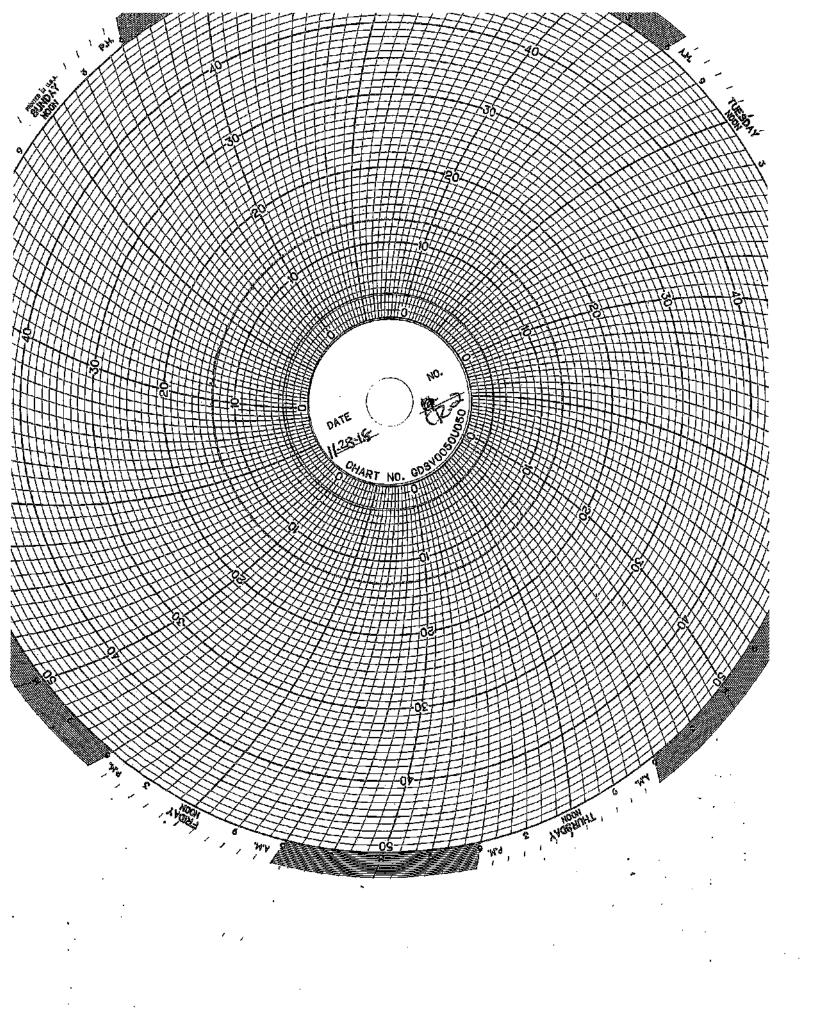
Red Pen - Well 1 Monthly Volume (chart value x 100,000)

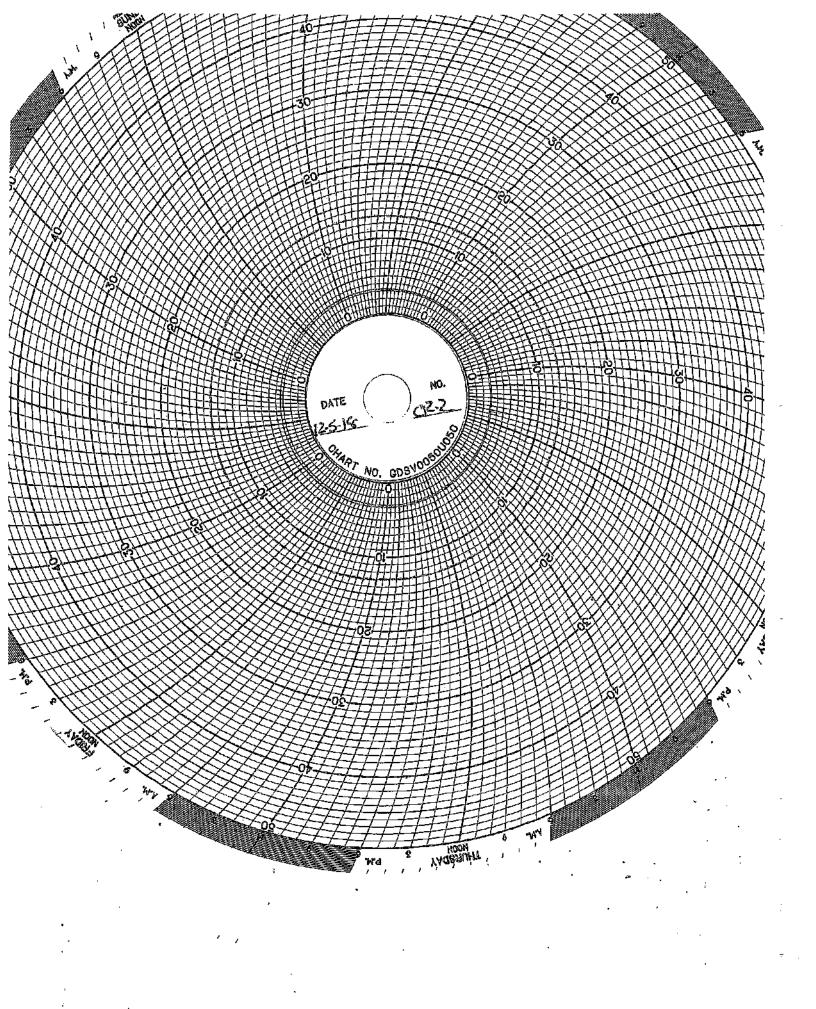
Channel #3

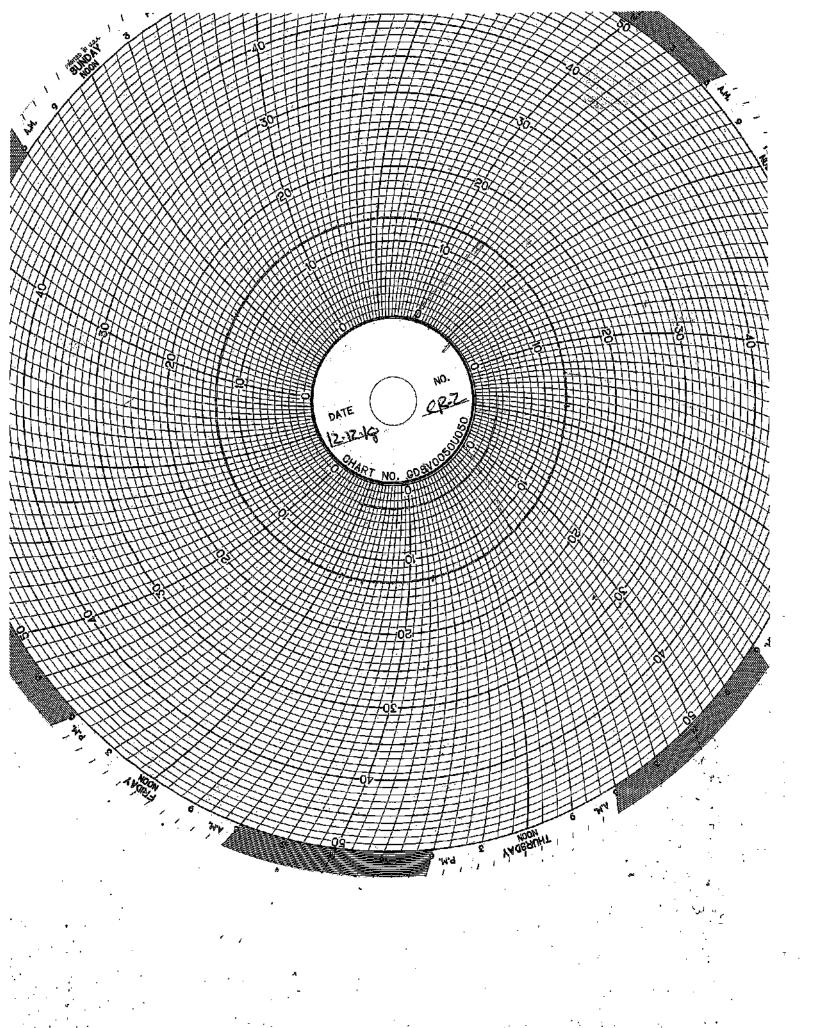
Green Pen - Well 2 Monthly Volume (chart value x 100,000)

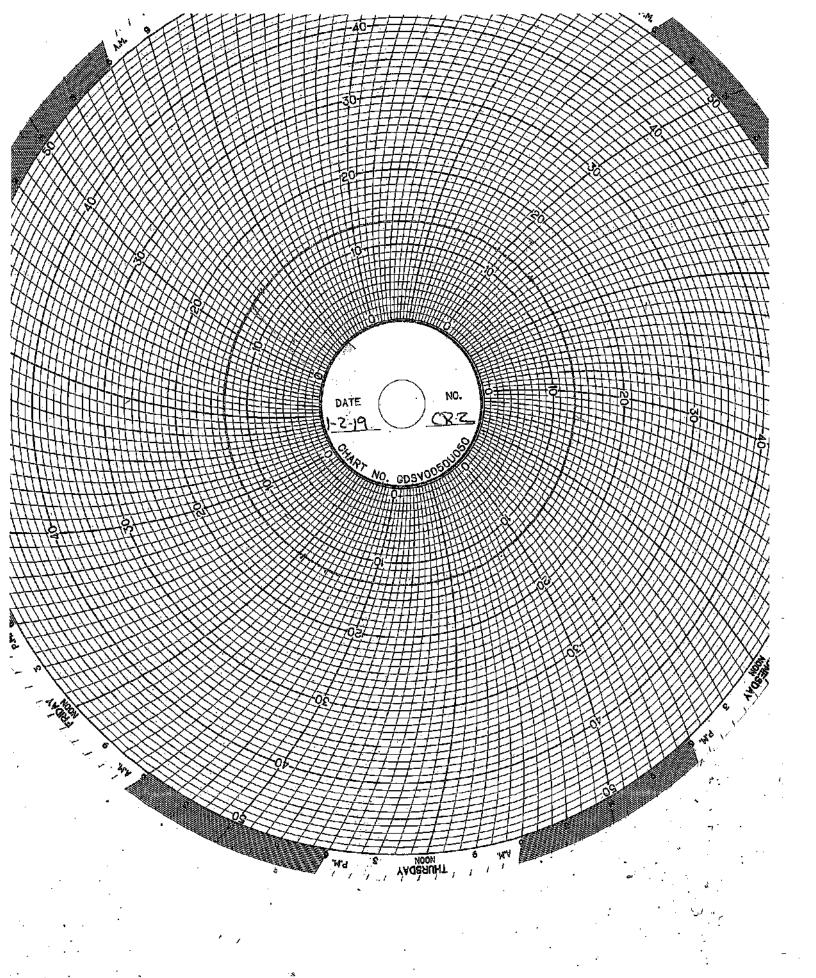
Channel #4

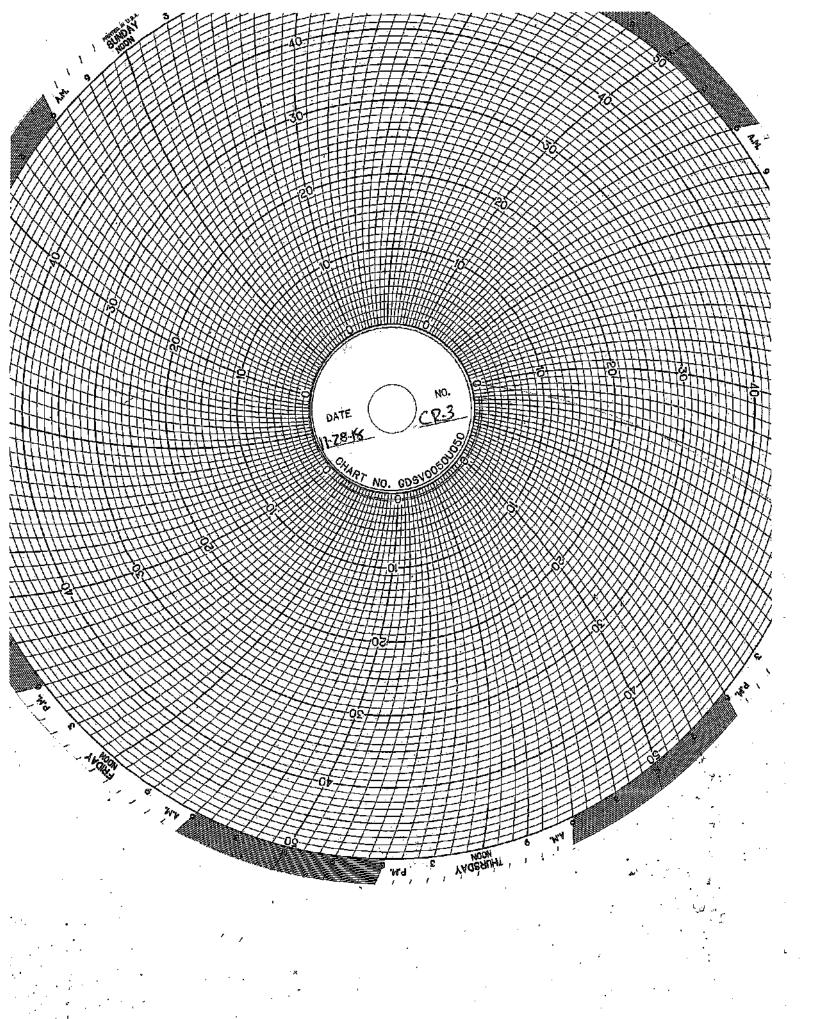
Black Pen - Temperature (chart value x 0)

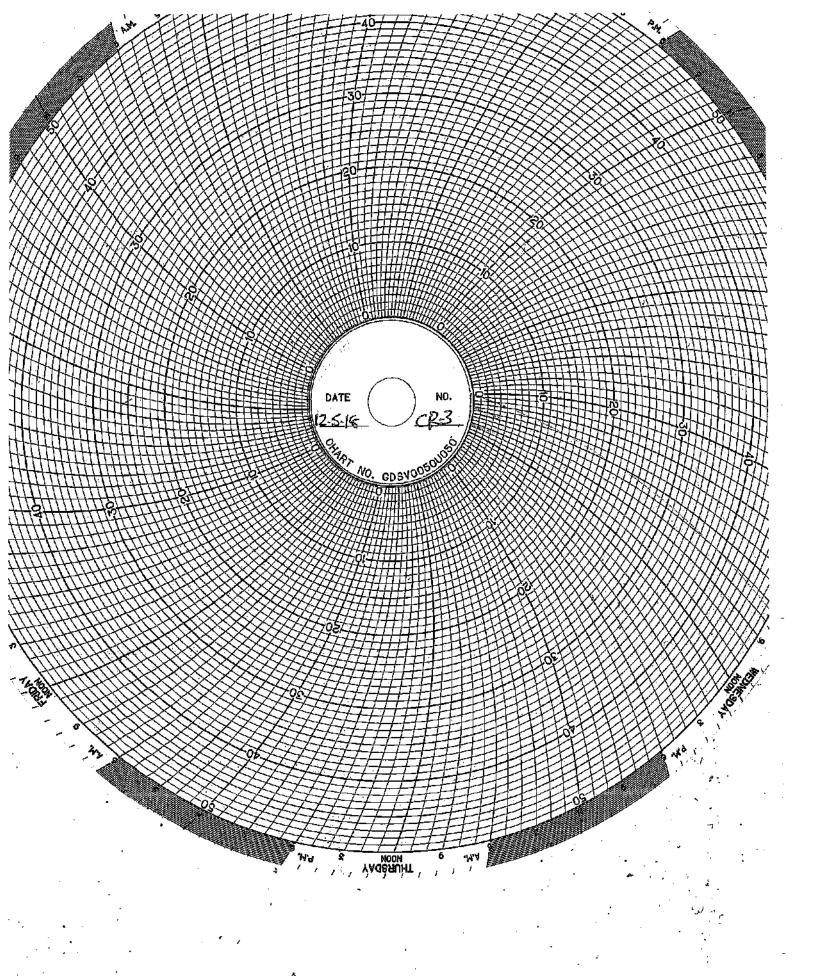


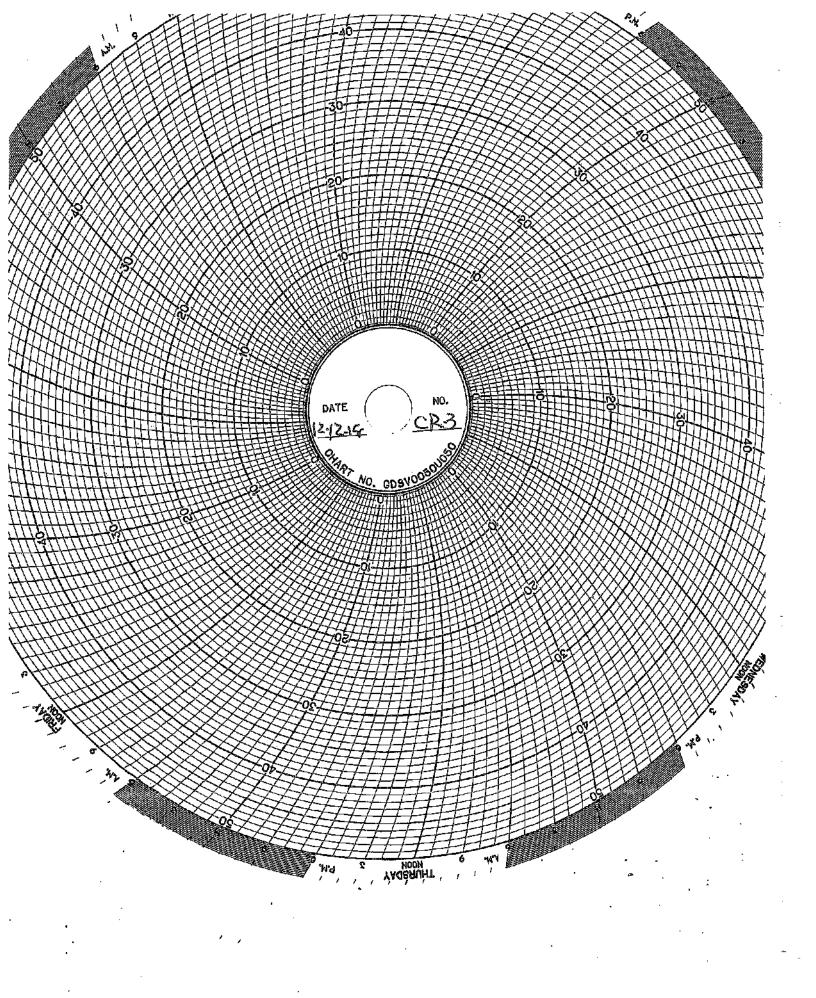


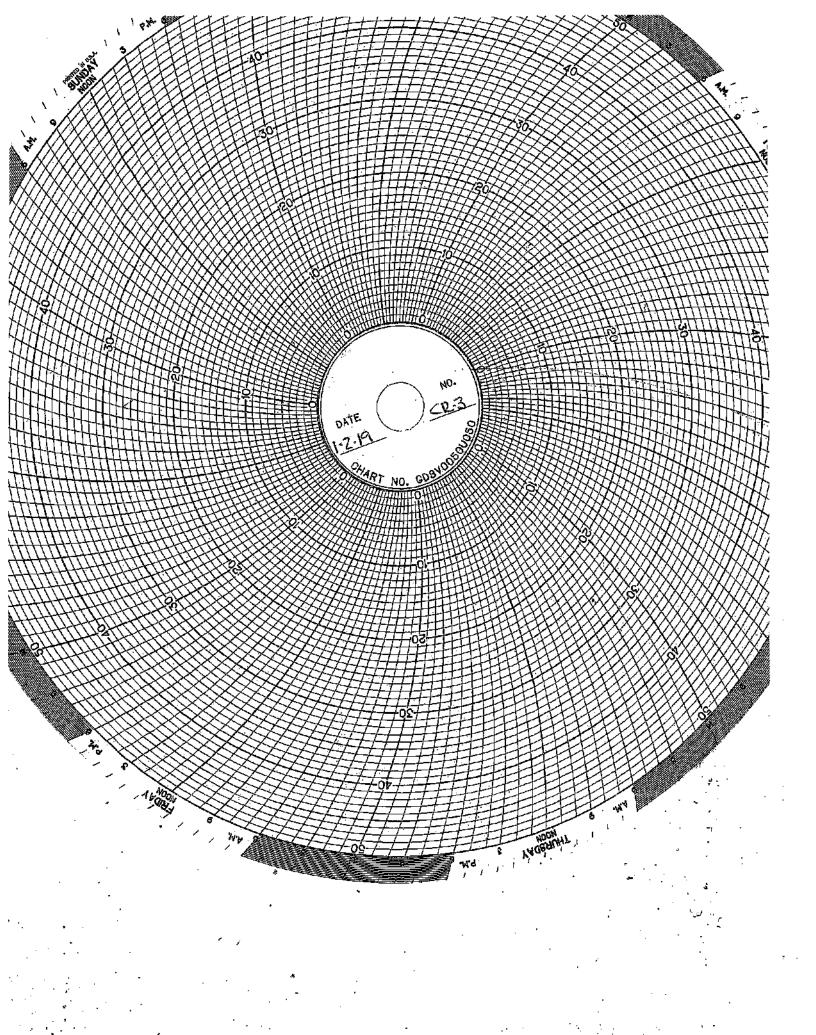












**MAINTENANCE LOG** 

CORROSION MONITORING

# CORROSION MONITORING COUPONS BASELINE VISUAL DESCRIPTION

November 4, 2013

## **Fiberglass**

The fiberglass coupon is Red Box 2000 type and is 2-1/2 inches long by 1/2 inch wide and 1/4 inches thick. It is a dark orange (rust) in color with a glossy shine on one side a polished look on the opposite side and the cut edges look sanded.

## Hastelloy

The hastelloy coupon is identified as C276 with serial number 1. The dimensions of the coupon are 3 inches long by 1/2 inch wide and 1/4 inch thick. The coupon is silver in color with a lightly sandblasted surface.

# Stainless Steel

The stainless steel coupon is identified as 316L with serial number C1562. The dimensions of the coupon are 3 inches long by 1/2 inch wide and 1/4 inch thick. The coupon is silver in color with a lightly sandblasted surface.

# CORROSION MONITORING COUPONS VISUAL DESCRIPTION

## December, 2018

## Fiberglass Coupon

The coupon is dark orange (rust) in color with similar semi-smooth textures on both sides. Its cut edges appear sanded. The coupon is free of pits, cracks, swelling, wicking and blemishes. Low injection this month.

# Hastelloy Coupon

This coupon is identified as C276 with Serial Number 5. The coupon is silver in color with a lightly sandblasted texture. It is clean and free of pits, cracks, and blemishes. There appears to be no effect on this coupon. Low injection this month.

## Stainless Steel Coupon

No change since last month. Low injection this month.

# CORROSION MONITORING PLAN COUPON SUMMARY

Date	Hastelloy	Stainless Steel	Fiberglass	
	(C267)	(316L)	(Redbox)	
12/19/2013	13.330 g	10.848 g	7.309 g	Initial Mass @ start up
2/21/2014	13,329 g	10.846 g	7.306 g	
3/10/2014	13.327 g	10.845 g	7.300 g	
4/18/2014	13.324 g	10.841 g	7.272 g	İ
5/30/2014	13.328 g	10.818 g	7.226 g	
6/30/2014	13.321 g	10.337 g	7.196 g	
7/11/2014	13.323 g	10.304 g	7.196 g	
8/12/2014	13.328 g	10.045 g	7.182 g	İ
9/17/2014	13.321 g	9.997 g	7,090 g	
10/30/2014	13.321 g	9.387 g	7.075 g	
11/21/2014	13.320 g	9.386 g	7.069 g	
12/19/2014	13.321 g	9.315 g	7.084 g	
1/12/2015	13.321 g	9.289 g	7.063 g	
2/23/2015	13.339 g	9.286 g	7.005 g	New hastelloy coupon
3/31/2015	13.339 g	9.286 g	7.005 g	
4/27/2015	13.335 g	9.130 g	6.852 g	
5/21/2015	13.336 g	9.124 g	6.809 g	
6/12/2015	13.334 g	9.126 g	6.819 g	
7/27/2015	13.337 g	9.127 g	6.818 g	
8/26/2015	13.337 g	9.022 g	6.780 g	
9/21/2015	13.336 g	8.987 g	6.792 g	
10/19/2015	13.335 g	8.985 g	6.797 g	į
11/16/2015	13.334 g	8.982 g	6.788 g	
12/17/2015	13.334 g	8.933 g	6.791 g	
1/29/2016	13.334 g	8.931 g	6.788 g	
2/16/2016	13.332 g	8.799 g	6.757 g	
3/31/2016	13.339 g	9.286 g	7.005 g	
4/22/2016	13.333 g	8.590 g	6.744 g	
5/31/2015	13.334 g	6.084 g	6.784 g	
6/30/2016	13.328 g	10.942 g	6.793 g	New stainless steel coupon
8/3/2016	13.326 g	10.529 g	6.743 g	
8/29/2016	13.325 g	10.020 g	6.723 g	
10/27/2016	13.325 g	8.765 g	6.708 g	
11/29/2016	13.327 g	8.571 g	6.740 g	
12/12/2016	13.323 g	8.223 g	6.717 g	
1/3/2017	13.325 g	8.059 g	6.712 g	
2/28/2017	13.324 g	7.634 g	6.727 g	
3/24/2017	13.325 g	7.370 g	6.732 g	
4/28/2017	13.325 g	6.736 g	6.736 g	
5/11/2017	13.323 g	7.352 g	6.689 g	
6/12/2017	13.323 g	7.357 g	6.689 g	
7/5/2017	13.323 g	7.355 g	6.689 g	
8/30/2017	13.324 g	7.353 g	18.105 g	New Fiberglass coupon
9/28/2017	13.325 g	7,352 g	18.060 g	
10/11/2017	13.324 g	7.350 g	18.038 g	
11/16/2017	13.325 g	7.363 g	18.047 g	
12/12/2017	13.326 g	7.308 g	18.307 g	

# CORROSION MONITORING PLAN COUPON SUMMARY

Date	Hastelloy	Stainless Steel	Fiberglass	
1/29/2018	13.326 g	10.930 g	18.027 g	New stainless steel coupon
2/9/2018	13.325 g	10.932 g	18.044 g	
3/19/2018	13.325 g	10.926 g	18.030 g	
4/16/2018	13.336 g	10.863 g	18.068 g	
5/17/2018	13.325 g	10.858 g	18.037 g	
6/20/2018	13.325 g	10.855 g	18.029 g	
7/12/2018	13.326 g	10.852 g	18.032 g	
8/21/2018	13.326 g	10.854 g	18.031 g	
9/14/2018	13.326 g	10.852 g	18.036 g	
10/10/2018	13.326 g	10.851 g	18.031 g	
11/20/2018	13.326 g	10.853 g	18.032 g	1
12/11/2018	13.326 g	10.852 g	18.033 g	

# GHESQUIERE PLASTIC TESTING, INC.

20460 HARPER AVENUE HARPER WOODS, MI 48225 PHONE (313) 885-3535 PAX (313) 885-1771

Report Date: November 15, 2013 Test Date: October 15 - November 14, 2013

Report #1310-77651 Performed for: Environmental Geo-Technologies 28470 Citrix Drive Romulus, MI 48174

Attention: Mr. Don Anderson

#### WORK REQUESTED:

Perform Barcol Hardness test on sample submitted.

#### DESCRIPTION OF SAMPLE:

Sample submitted was identified as a fiberglass test coupon.

(P. O. #Credit Card) .

#### WORK PERFORMED:

Test specimen was prepared as necessary and conditioned for a minimum of 26 hours at standard laboratory conditions prior to testing.

Barcol Hardness test was performed in accordance with the procedures of ASTM D2583-13. One specimen was tested.

#### RESULTS:

The following determination was made based upon the above test:

#### BARCOL HARDNESS

#### Hardness

Specimen 1

90

Specimen is being returned with this report for further evaluation.

CHESQUIERE PHASTIC TESTING, INC.

M. W. Chesquiers

President

# mwg/kni

TOTAL 1 PAGES

2060 MARPER AVENUE HARPER WOODS, MI 46225 PHONE (\$13) 885-3635 - FAX (\$13) 885-1771

Report Date: February 17, 2014 Test Date: February 14 - 17, 2014

,不可能是在4年,1775、1271、86660A266年,更通信作

3.54

Report #1402-78036 Performed for: Environmental Geo-Technologies 28470 Citrin Drive Romulus, MI 48174

Attention: Mr. Don Anderson

#### WORK REQUESTED:

Perform Barcol Hardness test on sample submitted.

#### DESCRIPTION OF SAMPLE:

Sample submitted was identified as a fiberglass test coupon.

(P. O. #Credit Card).

#### WORK PERFORMED:

Test specimen was prepared as necessary and conditioned for a minimum of 24 hours at standard laboratory conditions prior to testing.

Barcol Mardness test was performed in accordance with the procedures of ASTM D2583-13. One specimen was tested.

#### RESULTS:

The following determination was made based upon the above test:

. . . . .

#### BARCOL HARDNESS

#### Hardness

Spacimen 1 90

Specimen was returned to the client on February 17, 2014.

75 个时间的**设施程度设计设计**内域上。

्या निकास प्रमाणिक प्रमाणिक विकास स्थान । इति स्थान

Fresident

Ting, Inc.

· 人名阿特特拉雷斯 医皮肤

MWG/dn

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Samples, exist and related fast materials will be destroyed 30 afets after the date of the final report unless the client indicates of materials.

TOTAL 1 PAGES

# GHESQUIERE PLASTIC TESTING, INC.

20450 HARPER ÁVENUE HARPER WOODS, MI 48225 PHONE. (313) 885-3535 EAX. (313) 885-1771:

Report Date: June 16, 2014 Test Date: June 13 - 16, 2014

Report #1406-78499
Performed for:
Environmental Geo-Technologies, LLC
28470 Citrin Drive
Romulus, MI 48174

กุรคาร (วัน การกรี้แบบและที่รับชนุม เคาะสายเละเพิ่มสา

Attention: Mr. Don Anderson

#### WORK REQUESTED:

Perform Barcol Hardness test on sample submitted.

## DESCRIPTION OF SAMPLE:

Sample submitted was identified as a fiberglass test coupon.

(P. O. #Credit Card).

## WORK PERFORMED:

Test specimen was prepared as necessary and conditioned for a minimum of 24 hours at standard laboratory conditions prior to testing.

Market and the control of the control of the control of the

W. 100

A STATE OF S

Barcol Hardness test was performed in accordance with the procedures of ASTM D2583-13. One specimen was tested.

#### RESULTS:

The following determination was made based upon the above test:

#### BARCOL HARDNESS

Hardness

Specimen 1

85

Specimen was returned to the client June 16, 2014.

GHESOUTERE PLASTIC/TESTING, INC.

M. W. Ghesquiere

President

MWG/dm



October 2, 2014

# 

PN 118325 PO Attn: John Frost

# PLASTICS TESTING DEPARTMENT

Prepared For:

John Frost Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

Prepared By

Wellssa Wartin

Sf. Project Technician

Jim Drummond Physical & Plastics Festing, Manager



An AZLA ISO 17025 Accredited Texting Laboratory — Cartificate Numbers 255,01 & 255.02 ISO 9001;2008 Registered

SO 9001:2008

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# Testing. Development. Problem Solving.

October 2, 2014

John Frest Environmental Geo-Technologies, LLC Page 2 of 2 PN118325

SUBJECT:

Barcol Hardness on one material.

PO# Attn; John Frost

RECEIVED:

One small section identified as; Fiberglass Coupon.

# BARCOL HARDNESS ASTM D 2583-138

Results

Barcol Hardness, Instant

97

Prepared By

38

y weiseamarun Sr: Project Technician Approved By:

Scott VV. #at

Plastics Testing Assistant Manager



October 22, 2015

# - TEST REPORT -

PN 125322 PO 00154

# PLASTICS TESTING DEPARTMENT

Prepared For:

John Frost Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

Prepared By:

Melissa Martin Sr. Project Technician Approved By:

Jim Drummond, Sr.

Physical & Plastic Testing, Manager



An A2LA ISO 17025 Accredited Testing Laboratory — Certificate Numbers 255.01 & 255.02 ISO 9001;2008 Registered

ISO 9001:2008

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Progress Through Innovation, Technology and Customer Satisfaction

October 22, 2015

John Frost Environmental Geo-Technologies, LLC

Page 2 of 2 PN 125322

SUBJECT:

Barcol Hardness on one material.

RECEIVED:

One small section identified as; Fiberglass Coupon.

## BARCOL HARDNESS ASTM D 2583-13a

Instant Reading

Results

Barcol Hardness, Instant

96

Prepared By:

ſс

Melissa Martin

∕Sr. Project Technician

Approved By:

Scott W. Yátes

Plastics Testing Assistant Manager



December 12, 2016

# **-TEST REPORT-**

PN 132662 PO

# PLASTICS TESTING DEPARTMENT

Prepared For;

John Frost Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

Prepared By

Melissá Martin

Senior Project Technician

Rev 041916

Approved By:

Jim Diummond

And the second s

Physical Testing, Manager

An A2LA ISO 17025 Accredited Testing Laboratory --- Certificate Numbers 255.01 & 255.02 ISO 9001:2008 Registered

ISO 9001:2008

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Progress Through Innovation, Technology and Customer Satisfaction

December 12, 2016

John Frost

Environmental Geo-Technologies, LLC

Page 2 of 2 PN 132662

SUBJECT:

Barcol Hardness on one (1) material.

RECEIVED:

One (1) small section identified as; Fiberglass Coupon.

#### BARCOL HARDNESS ASTM D 2583-13a

Instant Reading

**RESULTS** 

Barcol Hardness, Instant

96

Prepared By:

Mélissa Martin Senior(Project Technician Approved By:

Scott Yates

Plastics Testing, Assistant Manager

wk

\*ARDL is ISO 17025 accredited by A2LA for the test methods listed on the certificates referenced on page one. NOTE: Non-ISO 17025 accredited test methods are designated with the \*symbol to differentiate from ISO 17025 accredited methods in the body of the test report.\*



December 13, 2017

### -TEST REPORT-

PN 139140 PO#

#### PLASTIC TESTING DEPARTMENT

Prepared For:

John Frost Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

Prepared By

Melissa Martin Sr Project Technician Approved By:

Jim Drummond

Rubber & Plastic Testing, Manager

Rev 041916



An A2LA (SO 17025 Accredited Testing Laboratory --- Certificate Numbers 255.01& 255.02 ISO 9001:2005 Registered

ISO 9001:2008



Progress Through Innovation, Technology and Customer Satisfaction

December 13, 2017

John Frost

Énvironmental Geo-Technologies, LLC

Page 2 of 2 PN 139140

SUBJECT:

Barcol Hardness on one material.

RECEIVED:

One small section identified as; Fiberglass Coupon.

#### BARCOL HARDNESS ASTM D 2583-13a

Instant Reading

Results

Barcol Hardness, Instant

96

Prepared By:

Melissa Martin

Sr Project Technician

Approved By:

Scott Yates

Plastics Testing, Assistant Manager

80

\*ARDL is ISO 17025 accredited by AZLA for the test methods listed on the certificates referenced on page one. NOTE: Non-ISO 17025 accredited test methods are designated with the Asymbol to differentiate from ISO 17025 accredited methods in the body of the test report.\*

# INJECTION FINGERPRINTS

# WASTE STREAMS CHARACTERIZATIONS





THINK GREEN?

Requested Facility:	Q Unsure Profile Number:
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certif	ficate of Disposal 🚨 Renewal? Original Profile Number:
A. GENERATOR INFORMATION	B. BILLING INF
1. Generator Na	/ 1. Billing Nam
2. Site Address:	_ · 2. Billing Add
(City, State, ZIP)	_ (City, State
3: County:	3, Contact M3
4. Contact Name:	4. Emailt
5, Email:	5. Phone
5. Phones 7. Fax: 7. Fax: 5.3 x.3.	
3. Generator EPA ID: Q N/	A 8. P.O. Number:
. State litter of the state of the state of the sense present of N/	
	A CONTRACTOR OF THE CONTRACTOR AND ADDRESS OF THE CONTRACTOR OF TH
. Material Information	D. REGULATORY INFORMATION  3. EAR Hammadown Market Wyes* UNO
Common Name/SPENT HYDROCHLORIC ACID 155112.56	1. EM Fidzai Gods Tydsiei
Describe Process Generating Material:	d Code: 0007, 0008, 0007, 0008
CLEANING OF STEEL PRIOR GALVANIZING	2. State tiereronz Mercei
to the second se	Code:  3. Is this material non-hazardous due to Treatment.   Yes* M No
- राज्यां अन्य (साक्ष्ये स्थिति ने प्रकारकार स्थाप । इत्या श्रीकां प्र	3. Is this material non-hazardous due to Treatment. 口 Yes* 图 No Delisting, or an Exclusion?
के के के क्षा कार्य द्वारा दिश्य विकास के क	Till the training of the state
Material Composition and Contaminants.	Service of Industrial regulater lander Benzene NESHAP? U Yes* M No
WATER THE STATE OF	6. Facility remediation subject to 40 CFR 63 GGGGG? *** *** *** No
2. Hyprochloric Acid	7. CERCLA or State-mandates clean-up?
1 = 2 = 5.0	8 NRC or State-regulated radioactive or NORM waste? • Yes* • No
A ZTRC (NOT FUSE OR DUST)	
Total comp, must be equal to or greater than 100% ≥100%  State Waste Codes  Color GREENSH  The Codes  Color GREENSH	9. Contains PCBs? 2 If Yes, answer a bland Ca.
State Waste Codes:	a Regulated by 40 CFR 761?
Color GREENISH To P. O Solid V Liquid O Other The Physical State at 70 P. O Solid V L	b. Remediation under 40 CFR 761.51 (a)?
Physical State at 70°P U Solid W Liound U Uner	c. Were PCB Imported into the US?
Free Liquid lange Percentage: 99 to 100 100 100 100 100 100 100 100 100 10	A 10. Regulated and/or Untrested D.Yes Si No
р <del>н 0.0. г. /del>	A Medical/Infectious Waste?  11. Contains Asbestos? □ Yes ☑ No
Strong Odore M Yes Q No Describe: ACIDIC 1 100 A 100 A	1 Contents Assessed
Hash Point: 50 €140°F 10 140°-199°F 10 ≥200° 5 148 F0 NA	S It took of the section of the sect
ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION	F. SHIPPING AND DOT INFORMATION
Analytical attached the Light the control of the second of the Control of the Con	
Please Identify applicable samples and/or lab reports:	2. Estimated Quantity/Unit of Measure: 100,600
The Section of the Control of the Co	☐ Tons ☐ Yards ☐ Drums ☑ Gallons ☐ Other:
A STATE	3. Contelner Type and Size: wanter 5000 gar Tan Ker
The same of the sa	4. USDOT Proper Shipping Name: CI N/A
Other information attached (such as MSDS)?	<b>-</b>
GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE	f)
relevant information necessary for proper material characterization and to meanify on a sample that is representative as defined in 40 CFR 261. Appendix 1 or by usin the process or newspraytically will be identified by the Generator and be disclosed to	ng an equivalent method. All charges occurring in the character of the material (i.e., changes or Waste Management prior to providing the material to Waste Management.
em an agent signing on Behielf of the Senarator, I have confirmed with the new torthat a secure and complete new of the Secure and complete line (Print).	Certification Signature  accepte  12.21,18
ourbau) de:	Revised June 30, 2015
HALV GOEENIS OUESTIONS CALL 80	D 263 4776 FOR ASSISTANCE ©2015 Waste Management







	Only complete this Addendum if prompted by or to provide additional information. Section	responses on E and question (	:Z Profile™ (page 1) numbers correspond		Number:	<del></del> -	
	EZ ProfilatM.						
C. MATI	rial intormation		<b>18</b>	space is needed, ple	ase attach :	additional p	ages.
Describ	e Process Generating Material (Continued from page	1):	. If more	Space is needed, pic	220 0000		
		<b>**</b>	•				
	*						
Matoria	Composition and Contaminants (Continued from p	age 1):	)f more	space is needed, ple	ase attach	additional p	ages.
5.	Vocs	<u> </u>	•			<u> </u>	
6.	V() C3				<u> </u>		
7.							
8,				<u> </u>			
9.		Nº .			100%	≥100	<del>, -  </del> .
		Total	composition must be	equal to or greater to	Tari Tooke [	2100	
Only q 1. EPA	LATORY INFORMATION . Lestions with a "Yes" response in Section D on Hazardous Waste Base list all USEPA listed and characteristic waste co		form (page 1) need	to be answered he	re.		
Γ			·				
	•						
- 1						☐ Yes	
b. <b>Is</b>	the material subject to the Alternative Debris stand	ards (40 CFR 26	8.45)?		_	· Di Yes	
c. Is	the material subject to the Alternative Soil standard	s (40 CFR 268.4	19) 🗘 🏗 tes, combre	ete question 4.	•	Q Yes	
d. Is	the material exempt from Subpart CC Controls (40	CFR 264.1083)	?			F 163	G 110
-3	If you blease check one of the following:	•		(200)		•	
	☐ Waste meets LDR or treatment exemptions for ☐ Waste contains VOCs that average <500 ppm	organics (40 CF n. (CFR 264.108)	R 264.1082(c)(2) or 2(c)(1)) – will regulfe	(c)(4)) annual update.	, P		
2 C1-4	waste contains voics that average <500 ppints Hazardous Waste → Please list all state waste con	les:	·		- W		
2, 31d1	netorial that is Treated Delisted or Evaluded $ ightarrow$ Pla	ease Indicate the	category, below:		m. 1	>	
3, [O] 7 [7]	- Baka Julian - Julian Walanda - 1 Eveluriad Wi	era unger 451 teri	K ZO 1.4 7 JUCKNY L	xdusion:		.,,	
ПТ	ested Wazardous Waste Debris	acteristic Hazard	lous Waste → If chec	ked, complete questi	on <b>4.</b>		
4. Und	erlying Hazardous Constituents -> Please list all Un	derlying Hazardo	us Constituents:	·			<del></del>
<u></u>			•				1
			20				
	•		·				
5 Indi	stries regulated under Benzene NESHAP Indude petrol	eum refineries, ch	remical manufacturing p	plants, coke by-produ	ct recovery	plants, and	TSDFs.
a A	re you a TSDF? -> If yes, please complete Benzene	NESHAP question	annaire. If not, continu	Je.			
b. C	oes this material contain benzene?						□ No.
1	If yes, what is the flow weighted average concentr	ation?					ppmw ad Ma
c. V	/hat is your facility's current total annual benzene qu	iantity in Megagi	rams?	□<1 Mg	U 1−9.95	iwig Laiz Yes □	DIMO DIMO
d. 1	this waste soil from a remediation?					₩ 152	_ppmw
1	. If yes, what is the benzene concentration in remed	lation waste?				∏ Vas	□ No
e. [	oes the waste contain >10% water/moisture?		10				□ No
f. F	las material been treated to remove 99% of the ber	zene or to achie	ve <10 bbunkt				□ No
g. l	; material exempt from controls in accordance with	40 CFR 61.3427	•				
•	If yes, specify exemption:	Cit	to you believe that this	s waste stream is sub	elect to		
h. I	If yes, specify exemption:	ON tedrispour, o	TO ADD DELIGAE MISC MIS	T NACT NO SPECIAL IS NOT	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	□ Yes	D. No
1	reatment and control requirements at an off-site 13	UPT 0	- at the point of deter	mination?		☐ Yes	© No
6.40	CFR 63 GGGGG → Does the material contain <50 CLA or State-Mandated clean up, → Please submit	the Record of De	cision or other docume	entation with process	Information	to assist o	thers in
						approved:	facility.
8. NR	evaluation for proper disposat. A Determination of Cor state regulated radioactive or NORM Waste >	Please Identify	Isotopes and pCi/g:	<del></del>			<del>,</del>

Revised June 30, 2015 ©2015 Waste Management

1.



## **Material Safety Data Sheet**

# Hydrochloric Acid

#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrochloric Acid

Synonyms/Generic Names: Aqueous Hydrogen chloride, Muriatic acid.

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.

N4335 Temkin Rd. Columbus, Wl. 53925

For More Information Call: 920-623-2140

(Monday -- Friday 8:00-4:30)

IN CASE OF EMERGENCY CALL: CHEMTREC

(24 Hours/Day, 7 Days/Week)

800-424-9300

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS#	EINECS#/ ELINCS#	Classification*
36 - 38%	Hydrochloric Acid	7647-01-0	231-595-7	C; R35, **

<sup>\*</sup>Symbol and R phrase according to EC Annex1

#### 3. HAZARDS IDENTIFICATION

Clear, colorless solution with caustic odor.

R35 - Causes severe burns.

\$1/2, \$26, \$30, \$45

Routes of Entry: Skin, eyes, inhalation and ingestion.



<sup>\*\*</sup> Subject to the reporting requirements of SARA Title III Section 313

#### Ingredients found on carcinogen lists:

INGREDIENT NAME

NTP STATUS

IARC STATUS

OSHA LIST

ACGIH

Hydrochloric Acid

Not Listed

Not Listed

Not Listed

Not Listed

#### 4. FIRST AID INFORMATION

Inhalation: Inhalation of mists can cause corrosive action on muccus membranes. Symptoms include burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. Move casualty to fresh air and keep at rest. Get medical attention if symptoms persist.

Eves:

Contact rapidly causes severe damage. Symptoms include eye burns, watering eyes. Permanent damage to cornea may result. In case of eye contact, rinse with planty of water and seek medical attention immediately.

Skin:

Severe and rapid corrosion from contact. Extent of damage depends on duration of contact. Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. harmful if absorbed through skin. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

Ingestion: Do Not Induce Vomiting! Severe and rapid corrosive burns of the mouth, guilet and gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain. Wash out mouth with water and give a glass of water or milk. Get medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

#### FLAMMABLE PROPERTIES:

Flash Point: Not Flammable Not Applicable Flash Point method: Autoignition Temperature: Not Applicable Upper Flame Limit (volume % in air): Not Applicable Not Applicable Lower Flame Limit (volume % in air):

Extinguishing Media: Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.

Special fire-fighting procedures: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.

Hazardous combustion products: Emits toxic fumes under fire conditions. (See also Stability and Reactivity section).

Unusual fire and explosion hazards: Material can react with metals to produce flammable hydrogen das.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions: Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Prevent spillage from entering drains. Cautiously add water to spill, taking care to avoid splashing and spattering. Neutralize diluted spill with soda ash or lime. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

#### 7. HANDLING AND STORAGE

Normal handling: See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use,

Storage: Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: (consult local authorities for acceptable exposure limits)

Chemical name	Regulatory List	Value and type
Hydrochtoric Acid .	UK OES STEL USA OSHA PEL USA ACGIH USA NIOSH Canada TLV OSHA IDLH VLE France (STEL)	7 mg/m <sup>3</sup> (10 minutes) 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> TLV Ceiling 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> 50 ppm 7.5 mg/m <sup>3</sup> (15 minutes)

TWA: Time Weighted Average over 8 hours of work. TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit during x minutes. IDLH: immediately Dangerous to Life or Health

Ventilation: Provide local exhaust, preferably mechanical.

Respiratory protection: If necessary use an approved respirator with acid vapor cartridges.

Eye protection: Wear chemical safety glasses with a face shield for splash protection.

Skin and body protection: Wear neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.

Other Recommendations: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Physical state:

Odor:

Odor Threshold: Specific Gravity:

pH:

Melting Point/Freezing Point:

Boiling Point/Range:

Flammability: Flash point:

Evaporation Rate (Butyl Acetate =1):

Explosive Limits:

Vapor Pressure (at 20°C): Vapor Density (air =1):

Solubility:

Partition coefficient/n-octanol/water:

. % Volatile:

Autoignition Temperature:

Clear, colorless to slight yellow liquid

Liquid

Acidic

0.25 to 10 ppm

1.1800

1

-46°C (-51°F) 51°C (123°F)

Not Flammable (See section 5) Not Flammable (See section 5)

Not Available

Not Explosive (See section 5)

15 mmHg

1.267

Completely soluble in water

Not Available Not Available See section 5

#### 10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Uncontrolled addition of water.

Incompatibility: Moisture, bases, organic material, metals, carbides, cyanides, chlorates, nitrates, picrates,

permanganate, peroxides, zinc iodide, azides, perchlorates, phosphorus.

Hazardous decomposition products: Carbon oxides.

Hazardous polymerization: Will not occur.

#### 11. TOXICOLOGICAL INFORMATION

Acute Effects: See section 4 for symptoms of exposure and effects. Likely routes of exposure are skin, eyes and inhalation.

Target organs: Kidney, liver, mucous membranes, respiratory system, skin, eyes and cardiovascular system.

#### **Acute Toxicity Data:**

Hydrochloric acid

Lowest Published Lethal Doses (LDL/LCL)

LDL [Man] Oral; 2857 ug/kg

LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

LD50 [oral, rat]; 700 mg/kg LC50 [rat]; 3124 (1 hour) Chronic Effects: May affect liver, bleeding of nose and gums, nasal and oral nucosal ulceration,

conjunctivitis, yellowing of teeth and erosion of tooth enamel, dermatitis.

Teratogenicity: Not Available Mutagenicity: Not Available Embryotoxicity: Not Available

Synergistic Products/Effects: Not Available

#### 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial): LD50 @ pH of 3 - 3.6

LC80 (72 hours): 56 mg/L (Daphnia Magna)

Persistence and Degradability: Not Available

Bioaccumulative Potential: Not Available

Mobility in Soil: Not Available

Other Adverse Effects: Not Available

#### 13. DISPOSAL CONSIDERATIONS

#### RCRA:

- Hazardous waste? Yes RCRA ID number: DOO2

Waste Residues: Carefully dilute with water, neutralize per spill procedures in section 6. Neutralized material may be flushed to sewer (REGULATIONS PERMITTING!) or disposed of through a licensed contractor. Users should review their operations in terms of the applicable federal/nation or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

Product containers: Containers, if theroughly cleaned, preferably by rinsing three times and handling the rinse water as waste residues, may be disposed of or recycled as non-hazardous waste. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and after the waste classification and proper disposal methods.

#### 14. TRANSPORTATION INFORMATION

DOT: UN1789, Hydrochloric Acid, 8, pg ll

TDG: UN1789, Hydrochloric Acid, 8, pg II

PIN: Not Available

IDMG: UN1789, Hydrochloric Acid, 8, pg II

Marine Pollutant: No

IATA/ICAO: UN1789, Hydrochioric Acid, 8, pg II

#### 15. REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the TSCA inventory.

Federal and State Regulations:

Connecticut hazardous material survey: Hydrochloric acid

Illinois toxic substances disclosure to employee act: Hydrochloric acid

illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid

Rhode Island RTK hazardous substances: Hydrochloric acid

Pennsylvania RTK: Hydrochloric acid

Minnesota: Hydrochloric acid

Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid

New Jersey: Hydrochloric acid

New Jersey spill list: Hydrochloric acid

Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Hydrochloric acid

California Director's List of Hazardous Substances: Hydrochloric acid

SARA 302/304/311/312 extremely hazardous substances: Hydrochloric Acid SARA 313 toxic chemical notification and release reporting: Hydrochloric Acid

CERCLA: Hazardous Substances: Hydrochloric Acid, 5000lbs.

California Proposition 65:

No

WHNIS Canada:

Class E - corrosive liquid.

Class D-2A - Material causing other toxic effects (very toxic)

teactivity

DSCL (EEC):

R35 - Causes severe burns.

#### HIMIS (U.S.A.)



National Fire Protection Association (U.S.A.)

Flammability



Specific hazard

#### **Protective Equipment:**



ADR (Europe):



TDG (Canada):



DSCL (Europe):



#### 1. OTHER INFORMATION

Current Issue Date: November 30, 2005

Previous Issue Date: N/A

Prepared by: Sherry Brock (920) 623-2140

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.



1.435 %

THINK GREEN:

# EZ Profile™

Requested Facility:	☐ Unsure Profile Number:
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificat	a of Disposal   Di Renewal? Original Profile Number:
1. Generator Nar	B. BILLING INFORMATION  J. Billing Nam  A Philos Add
2. Site Address (City, State, Zi) 3. Cqunty: 4. Contact Name: 5	-2. Billing Adds (City, State, ) 8. Confect Nov.
5. Email; 7. Pax: 5. Car. 11.	5. Ph. 7. WM nauled? 8. P.O. Number: 9. Payment Method: O Credit Account: O Cash O Credit Card
C.MATERIAL INFORMATION  1. Common Name SPENT Hydrochloric acid  1. Louis 1.1 4 6.5	D. REGULATORY INFORMATION  1. EPA Hazardous Weste?  3 Yes* © No
*Describe Process Generating Material:   CLEANING OF STEEL PRIOR GALVANIZING	Code: <u>D002, D006, D007, D008</u> 2. State Hazardous Waste?  Code:
"Handle the translations in the fine first of the fine of the first of	3. Is this material non-hazardous due to Treatment, Per Mo Delisting, or an Exclusion? 4. Contains Linderiving Hazardous Constituents? Dives. 50 No
2. Material Composition and Contaminants:  1. MATER  20.%  2. Mygrockloric Acti  3. IRON  4. ZING (NO) Fine OR DUST)	5. From an industry regulated under Benzene NESHAP?   1 Yes* 14 No  6. Facility remediation subject to 40. CFR 63 GGGGG?   1 Yes* 12 No  7. CERCLA or State-mandated clean-up?   1 Yes* 12 No  8. NBC or State-regulated radioactive or NORM waste?   1 Yes* 12 No
Total complement be equal to by greater than 100%   \$100%   100%	9. Contains PCBs? 9 if Sec. answer s, b and co
Fice Liquid Range Percentage 99 to 100 ロバタ は N/A ph D.O. ロスロース 140ドロス	10. Regulated and/or Unitrested ☐ Yes ☑ No Medical/Infectious Waste?  11. Contains Asbestos? ☐ Yes ☑ No. → If Yes: ☐ Non-Friable ☐ Non-Friable — Regulated ☐ Friable
i. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION  L. Analytical attached decrease the control of the control	F. SHIPPING AND DOT INFORMATION  1. CI One-Time Event  Repeat Event/Ongoing Business  2. Estimated Quantity/Onit of Measure: 100,000  CI Tons  CI Yards  CI Drums  CI Gallons  CI Other.  3. Container Type and Ste New War  Bood Jan. Tankor
2. Other information attached (such as MSDS)7.	4. USDOT Proper Shipping Name
5. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE) by signing this EZ Profile™ form, I hereby certify that all information submitted intrise and all relevant information necessary for proper material characterization and to identify known a sample that is representative as defined in 40 CFR 261 Appandix 1 or by using a nite process or new analytical) will be identified by the Generator and be disclosed to W	- and aleast method. All change or a relig to the character of the meterial (i.e., changes
n the process or new enalytical) will be identified by the Generator, I have confirmed with the Senerator than the Confirmed with the Confirmed wi	Certification Standaure acceptable 12.21,18
Company THINK GREEN: QUESTIONS? CALL 800 9	Revised June 30, 2015 63 4776 FOR ASSISTANCE Ø2015 Weste Menegement





# EZ Profile™ Addendum

Service Transport of the Control of		
The state of the s	Profile Number:	
Only complete this Addendum if prompted by responses on EZ for to provide additional information. Sections and question nur	Jona (baña )	
	ingra correspond to	
EZ Profile™.		
MATERIAL INFORMATION	north and stack additional bi	ages.
escribe Process Generating Material (Continued from page 1):	if more space is needed, please attach additional p	
<i>y</i> .	137 miles	1
aterial Composition and Contaminants (Continued from page 1):	if more space is needed, please attach additional p	ages.
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Total co	mposition must be equal to or greater than 100% ≥1009	4
REGULATORY INFORMATION	and the second have	
REGULATORY INFORMATION  The properties of the properties of the EXProfile of the profile of the	orm (page 1) need to be answered nece.	
FPA Hazardous Waste		
a. Please list all USEPA listed and characteristic waste code numbers:		
	4	
	•	
b. Is the material subject to the Alternative Debris standards (40 CFR 268.4	45)?	
<ul> <li>b. Is the material subject to the Alternative Soil standards (40 CFR 268.49)</li> <li>c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)</li> </ul>	? → If Yes, complete question 4. " ☐ Yes	
d. is the material exempt from Subpart CC Controls (40 CFR 264.1083)?	Yes	LI NO
a usasl ab-ala ana of the following:		
to the support over the for ordering (401 CFR)	264.1082(c)(2) or (d)(4))	
Waste contains VOCs that average <500 ppmw (CFR 264.1082)	:)(1)) - will require amual update.	
State Maste Codes:		
The suit of the termination of Problems of Piesse indicate the Ca	tegory, below:	
Treated Characteristic Hazardou	is Waste → If checked, complete question 4.	
Underlying Hazardous Constituents → Please list all Underlying Hazardous	Constituents:	: 1
, olidarlying hozar doub dollars.	•	
, , ,		
. Industries regulated under Benzene NESHAP include petroleum refineries, chen	nical manufacturing plants, coke by-product recovery plants, and	TSDF
<ul> <li>i. Industries regulated under Benzene NESHAP include periodes in terretains.</li> <li>a. Are you a TSDF? → If yes, please complete Benzene NESHAP questions.</li> </ul>	naire. If not, continue.	
a. Are you's TSDF? > IT yes, please complete penzere Nestra " question " question"	□ Yes	
b. Does this material contain benzene?	·	ррп
1. If yes, what is the flow weighted average concentration?	ms? □<1 Mg □1-9.99 Mg □≥	:10 N
c. What is your facility's current total annual benzene quantity in Megagram	☐ Yes	
d. Is this waste soil from a remediation?	<u> </u>	_ppn
If yes, what is the benzene concentration in remediation waste?      If yes, what is the benzene concentration in remediation waste?	□ Yes	
e. Does the waste contain >10% water/moisture?  f. Has material been treated to remove 99% of the benzene or to achieve	<10 ppmw?	
f. Has material been treated to remove 95% of the bender 5 to 342?	☐ Yes	· 🛄
g. Is material exempt from controls in accordance with 40 CFR 61.342?		
If yes, specify exemption:     Based on your knowledge of your waste and the BWON regulations, do h. Based on your knowledge of your waste and the BWON regulations, do	you believe that this waste stream is subject to	
treatment and control requirements at an off-site TSDF?  6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the Record of Decision of	t the point of determination?	
6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPS a 7. CERCLA or State-Mandated clean up, → Please submit the Record of Decis 7. CERCLA or State-Mandated clean up, → Please submit the Record of Decis	ion or other documentation with process information to assist o	thers
V. CEHCTA of State-invaligation clean off to Viscose appetite and the contract of the contract	ne needed for CERCLA wastes not going to a CERCLA approved to the stores and pCI/0:	Tacill

Revised June 30, 2015 ©2015 Waste Management

8. NRC or state regulated radioactive or NORM Waste -> Please identify isotopes and pCI/g:



## **Material Safety Data Sheet**

# Hydrochloric Acid

#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrochloric Acid

Synonyms/Generic Names: Aqueous Hydrogen chloride, Muriatic acid.

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.

N4335 Temkin Rd. Columbus, Wl. 53925

For More Information Call: 920-623-2140

(Monday - Friday 8:00-4:30)

IN CASE OF EMERGENCY CALL: CHEMTREC

(24 Hours/Day, 7 Days/Week)

800-424-9300

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS#	EINECS#/ ELINCS#	Classification*
36 - 38%	Hydrochloric Acid	7647-01-0	231-595-7	C; R35, **

#### 3. HAZARDS IDENTIFICATION

Clear, colorless solution with caustic odor.

R35 - Causes severe burns.

\$1/2, \$26, \$30, \$45

Routes of Entry: Skin, eyes, inhalation and ingestion.



<sup>\*</sup>Symbol and R phrase according to EC Annex1
\*\* Subject to the reporting requirements of SARA Title III Section 313

#### Ingredients found on carcinogen lists:

**INGREDIENT NAME** 

NTP STATUS

IARC STATUS

**OSHA LIST** 

<u>ACGIH</u>

Hydrochloric Acid

Not Listed

Not Listed

Not Listed

Not Listed

#### 4. FIRST AID INFORMATION

Inhalation: Inhalation of mists can cause corrosive action on mucous membranes. Symptoms include

burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.

Move casualty to fresh air and keep at rest. Get medical attention if symptoms persist.

Eyes: Contact rapidly causes severe damage. Symptoms include eye burns, watering eyes. Permanent

damage to comea may result. In case of eye contact, rinse with plenty of water and seek medical

attention immediately.

Skin: Severe and rapid corrosion from contact. Extent of damage depends on duration of contact.

Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. harmful if absorbed through skin. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

Ingestion: Do Not Induce Vomiting! Severe and rapid corrosive burns of the mouth, gullet and

gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain. Wash out mouth with water and give a glass of water or milk. Get

medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

#### FLAMMABLE PROPERTIES:

Flash Point:

Not Flammable

Flash Point method:

Not Applicable

Autolgnition Temperature:

Not Applicable

Upper Flame Limit (volume % in air):

Not Applicable

Lower Flame Limit (volume % in air):

Not Applicable

**Extinguishing Media:** Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.

Special fire-fighting procedures: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.

**Hazardous combustion products:** Emits toxic fumes under fire conditions. (See also Stability and Reactivity section).

Unusual fire and explosion hazards: Material can react with metals to produce flammable hydrogen gas.

#### **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions: See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions: Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Prevent spillage from entering drains. Cautiously add water to spill, taking care to avoid splashing and spattering. Neutralize diluted spill with soda ash or lime. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

#### 7. HANDLING AND STORAGE

**Normal handling:** See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Storage: Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: (consult local authorities for acceptable exposure limits)

<u>Chemical name</u>	Regulatory List	Value and type
Hydrechloric Acid	UK OES STEL USA OSHA PEL USA ACGIH USA NIOSH	7 mg/m <sup>3</sup> (10 minutes) 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> TLV Ceiling 7 mg/m <sup>3</sup> Ceiling
•	Canada TLV OSHA IDLH VLE France (STEL)	7 mg/m <sup>3</sup> 50 ppm 7.5 mg/m <sup>3</sup> (15 minutes)

TWA: Time Weighted Average over 8 hours of work. TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit during x minutes. IDLH: Immediately Dangerous to Life or Health

Ventilation: Provide local exhaust, preferably mechanical.

Respiratory protection: If necessary use an approved respirator with acid vapor cartridges.

Eye protection: Wear chemical safety glasses with a face shield for splash protection.

Skin and body protection: Wear neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.

Other Recommendations: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Physical state:

Odor:

Odor Threshold:

Specific Gravity:

pH:

Melting Point/Freezing Point:

Boiling Point/Range:

Flammability:

Flash point:

Evaporation Rate (Butyl Acetate =1):

**Explosive Limits:** 

Vapor Pressure (at 20°C): Vapor Density (air =1):

Solubility:

Partition coefficient/n-octanol/water:

% Volatile:

Autoignition Temperature:

Clear, colorless to slight yellow liquid

Liquid Acidic

0.25 to 10 ppm

1.1800

-46°C (-51°F)

51°C (123°F)

Not Flammable (See section 5) Not Flammable (See section 5)

Not Available

Not Explosive (See section 5)

15 mmHg 1.267

Completely soluble in water

Not Available Not Available See section 5

#### 10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Uncontrolled addition of water.

Incompatibility: Moisture, bases, organic material, metals, carbides, cyanides, chlorates, nitrates, picrates,

permanganate, peroxides, zinc iodide, azides, perchlorates, phosphorus.

Hazardous decomposition products: Carbon oxides.

Hazardous polymerization: Will not occur.

### 11. TOXICOLOGICAL INFORMATION

Acute Effects: See section 4 for symptoms of exposure and effects. Likely routes of exposure are skin, eyes

Target organs: Kidney, liver, mucous membranes, respiratory system, skin, eyes and cardiovascular system.

#### Acute Toxicity Data:

Hydrochloric acid

Lowest Published Lethal Doses (LDL/LCL)

LDL [Man] Oral; 2857 ug/kg

LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

LD50 [oral, rat]; 700 mg/kg LC50 [rat]; 3124 (1 hour)

Chronic Effects: May affect liver, bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, yellowing of teeth and erosion of tooth enamel, dermatitis.

Teratogenicity: Not Available Mutagenicity: Not Available Embryotoxicity: Not Available

Synergistic Products/Effects: Not Available

#### 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial): LD50 @ pH of 3 - 3.6

LC80 (72 hours): 56 mg/L (Daphnia Magna)

Persistence and Degradability: Not Available

Bioaccumulative Potential: Not Available

Mobility in Soil: Not Available

Other Adverse Effects: Not Available .

#### 13. DISPOSAL CONSIDERATIONS

#### RCRA:

Hazardous waste? Yes RCRA ID number: DOO2

Waste Residues: Carefully dilute with water, neutralize per spill procedures in section 6. Neutralized material may be flushed to sewer (REGULATIONS PERMITTING!) or disposed of through a licensed contractor. Users should review their operations in terms of the applicable federal/nation or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

Product containers: Containers, if thoroughly cleaned, preferably by rinsing three times and handling the rinse water as waste residues, may be disposed of or recycled as non-hazardous waste. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

#### 14. TRANSPORTATION INFORMATION

DOT: UN1789, Hydrochloric Acid, 8, pg II

TDG: UN1789, Hydrochloric Acid, 8, pg II

PIN: Not Available

IDMG: UN1789, Hydrochloric Acid, 8, pg II

Marine Pollutant: No

IATA/ICAO: UN1789, Hydrochloric Acid, 8, pg II

#### 15. REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the TSCA inventory.

#### Federal and State Regulations:

Connecticut hazardous material survey: Hydrochloric acid

Illinois toxic substances disclosure to employee act: Hydrochloric acid

Illinois chemical safety act: Hydrochloric acid

New York release reporting list: Hydrochloric acid

Rhode Island RTK hazardous substances: Hydrochloric acid

Pennsylvania RTK: Hydrochloric acid

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SARA 302/304/311/312 extremely hazardous substances: Hydrochloric Acid SARA 313 toxic chemical notification and release reporting: Hydrochloric Acid

CERCLA: Hazardous Substances: Hydrochloric Acid, 5000lbs.

California Proposition 65:

No

WHMIS Canada:

Class E - corrosive liquid.

Class D-2A - Material causing other toxic effects (very toxic)

DSCL (EEC):

R35 - Causes severe burns.

#### HMIS (U.S.A.)



National Fire Protection

Association (U.S.A.)





Reactivity

Specific hazard

#### Protective Equipment:



ADR (Europe):



TDG (Canada):



DSCL (Europe):



#### 1. OTHER INFORMATION

Current Issue Date: November 30, 2005

Previous Issue Date: N/A

Prepared by: Sherry Brock (920) 623-2140

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WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.





Requested Facility:	CF Unsure Profile Number:
Multiple Generator Locations (Attach Locations)     Request Certific	
A. GENERATOR INFORMATION (MATERIAL ORIGIN)	B. BILLING INFORMATION
1. Generator Natural	
2. Site Address:	2. Billing Ad
(City, State, ZIP)	(City, State
3. County:	3. Contact M
	. 4. Emá
4. Contact Name:	5. Phor
5. Email: 7. Fax: 12/ Y X 444	
· · · · · · · · · · · · · · · · · · ·	
8. Generator EPA ID:	
9. State ID: *** *******************************	9. Payment Method: U Creok Account. To cash To Control
C. MATERIAL INFORMATION	D. REQULATORY INFORMATION
1. Common Name: SPENT HYDROCHLORIC AGID . Labor Leader	iπtγιψ iπ ki_
*Describe Process Generating Material: See Attached	
CERANING OF STEEL PRIOR GALVANIZING 44 1 3 4 4 4 1	
PERMING OLD SEET LEIGH OVERHÄNNIG	Code:
If he was the state of the property of the property of	3. Is this material non-hazardous due to Treatment. Tyes* 57 No
是一个一个人的一个人的一个人的一个人的一个人的一个人的一个人的一个人的一个人的一个	Delisting, or an Exclusion?
Material Composition and Contaminants:	4. Contains Underlying Hazardous Constituents? " 📮 Yes" 🛂 No
<ol> <li>Material Composition and Contaminants: "" 1256 Attached</li> </ol>	5. From an industry regulated under Benzene NESHAP? Q Yes* 2 No-
1. WATER	
2. HYDROCHLORIC ACID 4. 20%	7. CERCLA or State-mandated clean-up?
3. TROW 2 10 % 4, ZINC (NOT FUNE OR DUST) 2-10 %	B. NRC or State-regulated radioective or NORM waste? 🗆 Yes*. 🗗 No.
4. ZING (NO) PURE OR OUT)	*If Yes, see Addendum (page 2) for additional questions and space.
Total Confidence of the Management (13) (6)	9. Contains PCBs? > If Yes answer a, b and c.
Total comp. must be equal to or greater than 100% \$100%  State Waste Codes  Color: GREENISH	a. Regulated by 40 CFR 761?  b. Remediation under 40 CFR 761:61 (a)?  c. Were PCB imported into the US?
5. Physical State at 70 F. Solid 20 Liquid Other:  5. Physical State at 70 F. Solid 20 Liquid Other:  6. Free Liquid Range Percentage 99 to 100 D N/A	b. Remediation under 40 CFR 751.61 (a)?
1 Mysical state at 70 m and some and additional state of the state of	1
	12.162 (2.162)
1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	100000000000000000000000000000000000000
3. Strong Odor: A Yes I No Describe: ACIDIC: V 4-1-1-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	→ If Yes: □ Non-Friable □ Non-Friable - Regulated □ Friable
9. Flash Point : (그'로140:F)그 기40년-199*F*(덕 돌200*후 기기 (단교 N/A	7 IF 185. LINUITABLE CHAITTIESE TRESPERS
i. Analytical and other representative information	P. SHIPPING AND DOT INFORMATION
L. Analytical attached 😘 👙 at the hearth of the properties 🚨 Yes	1. 🗆 One-Time Event 🛂 Repeat Event/Ongoing Business
Pléase identify applicable samples and/or lab reports:	2, Estimated Quantity/Unit of Measure: (00:000
The state of the state of the state of	O Tons O Yards O Drups O Gallons, O Other.
	3. Container Type and Size: Nonthing 5000 gaz Tanker
アリング と 15 mm (A) A A A A A A A A A A A A A A A A A A	4. USDOT Proper Shipping Name:
2. Other information attached (such as MSDS)?	ROL CHARSE WASTE CORRUSTE LICHIO ACCIDE HORSANG N.C.S., E. II.
The same of the sa	The second secon
il relevant information nacessary for proper material characterization and to identify k	nown and suspected hazards has been provided. Any analytical data attached was derived on an equivalent method. All changes occuring in the character of the material (i.e., changes).  Whethe Management prior to provident
rom a sample that is representative as debried in 40 CFR 201 - Appendix 1 of dy delig In the process of new enelytical) will be identified by the Generator and be disclosed to	Wasta Management prior to providing the material to Wasta Management.
i I am en agent signing on bejiklif of the Generator, I have confirmed with the Senerator that is known	ana Halle
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Compani	7
	Revised Juna 30, 2015
THINK GREEN? QUESTIONS? CALL 800	969 4776 FOR ASSISTANCE ©2015 Waste Management





# EZ Profile™ Addendum

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	Only complete this Addendum if prompted by responses on EZ Profile** (page 1)  Profile Number:		<del></del>
•	EZ Profileto.		<b></b>
	ATERIAL INFORMATION	1.6021	
)esc	ribe Process Generating Material (Continued from page 1): If more space is needed, please attach	additional	pages.,
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			·
/lat	erfal Composition and Contaminants (Continued from page 1): if more space is needed, please attach	additional	pages.
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6.		- '!	
7.		ļ. ———	
8.		<u> </u> -	
9.	(4) to the 1000's	≥100	<u>oz</u> .
	Total composition must be equal to or greater than 100%	2100	<u></u>
, RE	GULATORY INFORMATION		
ınly	questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.		
	A Hazardous Waste		
a,	Please list all USEPA listed and characteristic waste code numbers:	<del></del>	
			- 1
		<del></del> -	
	Is the material subject to the Alternative Debris standards (40 CFR 268.45)?	☐ Yes	
	is the material subject to the Artemative soft standards (40 Clin 500.45).	Yes	
d.	Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?	Yes	FI NO
	→ If Yes, please check one of the following:	•	
	☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))		
	Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.		
. St	ate Hazardous Waste → Please list all state waste codes:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	r material that is lifeated, belisted, or excluded ⇒ Please indicate the category, below.  Delisted Hazardous Waste □ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: □ □ □ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		
	Treated Hazardous Waste Debris  ☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.	77	
Пе	nderlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:	• .	
E	Deliying nazardous Constituents 7 Fleese list all Onderlying historic dead conditions		
Ļ	A STOCKED LAND A LAND SERVICE PROPERTY OF THE	nlants and	TSDEs.
. In	dustries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery	Yes	□ No
	Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.	☐ Yes	
D.	Does this material contain benzene?		ppmw/
_	1. If yes, what is the flow weighted average concentration?  What is your facility's current total annual heavene quantity in Megagrams?  □ <1 Mg □ 1-9.99		
	What is your facility's current total annual benzene quantity in Megagrams?	☐ Yes	_
u.	1. If yes, what is the benzene concentration in remediation waste? —	: _	wmqq
_	Does the waste contain >10% water/moisture?	Ql Yes	
	Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?	🖸 Yes	
	Is material exempt from controls in accordance with 40 CFR 61.342?	🛚 Yes	□ No
-	Have enable overnation		<u> </u>
h	Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to		
	treatment and control requirements at an off-site TSDF?	🛘 Yes	
. 4	n CFR 63 GGGGG → Roes the material contain <500 ppmw VOHAPs at the point of determination?	🛚 Yes	
	EDC: A or State—Mandated clean up. 👄 Please submit the Record of Decision or other documentation with process information	to assist of	ners in
ŦF.	e evaluation for proper disposal. A "Defermination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA.	approved R	acility.
l. N	RC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCI/g:		

Revised June 30, 2015 @2015 Waste Management



## **Material Safety Data Sheet**

# Hydrochloric Acid

#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrochloric Acid

Synonyms/Generic Names: Aqueous Hydrogen chloride, Muriatic acid.

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.

N4335 Temkin Rd. Columbus, Wl. 53925

For More Information Call: 920-623-2140

(Monday - Friday 8:00-4:30)

IN CASE OF EMERGENCY CALL: CHEMTREC

(24 Hours/Day, 7 Days/Week)

800-424-9300

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS#	EINECS#/ ELINCS#	Classification*
36 - 38%	Hydrochloric Acid	7647-01-0	231-595-7	C; R35, **

<sup>\*</sup>Symbol and R phrase according to EC Annex1

#### 3. HAZARDS IDENTIFICATION

Clear, colorless solution with caustic odor.

R35 - Causes severe burns.

S1/2, S26, S30, S45

Routes of Entry: Skin, eyes, inhalation and ingestion.



<sup>\*\*</sup> Subject to the reporting requirements of SARA Title III Section 313

#### Ingredients found on carcinogen lists:

INGREDIENT NAME NTP STATUS JARC STATUS OSHA LIST ACGIH

Hydrochloric Acid Not Listed Not Listed Not Listed Not Listed

#### 4. FIRST AID INFORMATION

Inhalation: Inhalation of mists can cause corrosive action on mucous membranes. Symptoms include

burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. Move casualty to fresh air and keep at rest. Get medical attention if symptoms persist.

Move casualty to heart air and keep at lest. Get medical attention in symptoms passion

Eyes: Contact rapidly causes severe damage. Symptoms include eye burns, watering eyes. Permanent

damage to cornea may result. In case of eye contact, rinse with plenty of water and seek medical

attention immediately.

Skin: Severe and rapid corrosion from contact. Extent of damage depends on duration of contact.

Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. harmful if absorbed through skin. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

Ingestion: Do Not Induce Vomiting! Severe and rapid corrosive burns of the mouth, gullet and

gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, verniting and severe pain. Wash out mouth with water and give a glass of water or milk. Get

medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

#### **FLAMMABLE PROPERTIES:**

Flash Point: Not Flammable

Flash Point method: Not Applicable
Autoignition Temperature: Not Applicable

Upper Flame Limit (volume % in air): Not Applicable Lower Flame Limit (volume % in air): Not Applicable

Extinguishing Media: Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.

Special fire-fighting procedures: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.

**Hazardous combustion products:** Emits toxic furnes under fire conditions. (See also Stability and Reactivity section).

Unusual fire and explosion hazards: Material can react with metals to produce flammable hydrogen gas.

#### **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions: See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions: Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Prevent spillage from entering drains. Cautiously add water to spill, taking care to avoid splashing and spattering. Neutralize diluted spill with soda ash or lime. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all wasfe or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

#### 7. HANDLING AND STORAGE

Normal handling: See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

**Storage:** Store in cooi, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: (consult local authorities for acceptable exposure limits)

Chemical name	Regulatory List	Value and type
Hydrochloric Acid	UK OES STEL USA OSHA PEL USA ACGIH USA NIOSH Cenada TLV OSHA IDLH VLE France (STEL)	7 mg/m <sup>3</sup> (10 minutes) 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> TLV Ceiling 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> 50 ppm 7.5 mg/m <sup>3</sup> (15 minutes)

TWA: Time Weighted Average over 8 hours of work. TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit during x minutes. IDLH: Immediately Dangerous to Life or Health

Ventilation: Provide local exhaust, preferably mechanical.

Respiratory protection: If necessary use an approved respirator with acid vapor cartridges.

Eye protection: Wear chemical safety glasses with a face shield for splash protection.

**Skin and body protection:** Wear neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.

Other Recommendations: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Physical state:

Odor:

Odor Threshold: Specific Gravity:

pH:

Melting Point/Freezing Point:

Boiling Point/Range:

Flammability: Flash point:

Evaporation Rate (Butyl Acetate =1):

**Explosive Limits:** 

Vapor Pressure (at 20°C): Vapor Density (air =1):

Solubility:

Partition coefficient/n-octanol/water:

%·Volatile:

Autoignition Temperature:

Clear, coloriess to slight yellow liquid

Liquid Acidic

0.25 to 10 ppm

1.1800

4

-46°C (-51°F)

51°C (123°F)

Not Flammable (See section 5) Not Flammable (See section 5)

Not Available

Not Explosive (See section 5)

15 mmHg 1.267

Completely soluble in water

Not Available Not Available See section 5

#### 10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Uncontrolled addition of water.

Incompatibility: Moisture, bases, organic material, metals, carbides, cyanides, chlorates, nitrates, picrates,

permanganate, peroxides, zinc iodide, azides, perchlorates, phosphorus.

Hazardous decomposition products: Carbon oxides.

Hazardous polymerization: Will not occur.

#### 11. TOXICOLOGICAL INFORMATION

Acute Effects: See section 4 for symptoms of exposure and effects. Likely routes of exposure are skin, eyes and inhalation.

Target organs: Kidney, liver, mucous membranes, respiratory system, skin, eyes and cardiovascular system.

#### Acute Toxicity Data:

Hydrochloric acid

Lowest Published Lethal Doses (LDL/LCL)

LDL [Man] Oral; 2857 ug/kg

LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

LD50 [oral, rat]; 700 mg/kg LC50 [rat]; 3124 (1 hour) Chronic Effects: May affect liver, bleeding of nose and gums, nasal and oral nucosal ulceration,

conjunctivitis, yellowing of teeth and erosion of tooth enamel, dermatitis.

Teratogenicity: Not Available Mutagenicity: Not Available Embryotoxicity: Not Available

Synergistic Products/Effects: Not Available

#### 12. ECOLOGICAL INFORMATION

Ecotoxicity (aguatic and terrestrial): LD50 @ pH of 3 - 3.6

LC80 (72 hours): 56 mg/L (Daphnia Magna)

Persistence and Degradability: Not Available

Bloaccumulative Potential: Not Available

Mobility in Soil: Not Available

Other Adverse Effects: Not Available

#### 13. DISPOSAL CONSIDERATIONS

#### RCRA:

Hazardous waste? Yes RCRA ID number: DO02

Waste Residues: Carefully dilute with water, neutralize per spill procedures in section 6. Neutralized material may be flushed to sewer (REGULATIONS PERMITTING!) or disposed of through a licensed contractor. Users should review their operations in terms of the applicable federal/nation or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

Product containers: Containers, if thoroughly cleaned, preferably by rinsing three times and handling the rinse water as waste residues, may be disposed of or recycled as non-hazardous waste. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste dessification and proper disposal methods.

#### 14. TRANSPORTATION INFORMATION

DOT: UN1789, Hydrochloric Acid, 8, pg II

TDG: UN1789, Hydrochloric Acid, 8, pg II

PIN: Not Available

IDMG: UN1789, Hydrochloric Acid, 8, pg II

Marine Pollutant: No

IATA/ICAO: UN1789, Hydrochloric Acid, 8, pg []

#### 15. REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the TSCA inventory.

#### Federal and State Regulations:

Connecticut hazardous material survey: Hydrochloric acid

Illinois toxic substances disclosure to employee act; Hydrochloric acid

Illinois chemical safety act: Hydrochloric acid

New York release reporting list: Hydrochloric acid

Rhode Island RTK hazardous substances: Hydrochloric acid

Pennsylvania RTK: Hydrochloric acid

Minnesota: Hydrochloric acid

Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid

New Jersey: Hydrochloric acid

New Jersey spill list: Hydrochloric acid

Louisiana RTK reporting list: Hydrochloric acid

Louisiana spill reporting: Hydrochloric acid

California Director's List of Hazardous Substances: Hydrochloric acid

SARA 302/304/311/312 extremely hazardous substances: Hydrochloric Acid SARA 313 toxic chemical notification and release reporting: Hydrochloric Acid CERCLA: Hazardous Substances: Hydrochloric Acid, 5000lbs.

California Proposition 65:

No

WHMIS Canada:

Class E - corrosive liquid.

Class D-2A - Material causing other toxic effects (very toxic)

DSCL (EEC):

R35 - Causes severe burns.

#### HIMIS (U.S.A.)



National Fire Protection

Association (U.S.A.)



Health

Reactivity

Specific hazard

#### **Protective Equipment:**



ADR (Europe):



TDG (Canada):



DSCL (Europe):



#### 1. OTHER INFORMATION

Current Issue Date: November 30, 2005

Previous Issue Date: N/A

Prepared by: Sherry Brock (920) 623-2140

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.

**⊘1373** EZ Profile™



THINK GREEN:

Requested Facility:	☐ Unsure Profile Number:		
☐ Multiple Generator Locations (Attach Locations) ☐ Request Cer			
	THE AREA OF THE PARTY OF THE PA		
A. GENERATOR INFORMATION (MATERIAL ORIGIN)	B. BILLING IX		
1. Generator Name	1. Billing Na		
2. Site Address: 1	2. Bfling At		
(Qity, State, ZIP)	(City, State		
3. County:	4. Email:		
4. Contact Names			
6: Phone 7. Pax: 7. Pax: 1. Sort 1. So	7, WM Hauled?.		
B, Genérator EPA ID:	N/A 8 PO Number:		
Se State   Department of the d			
The state of the s	of became after agents and the second of the second of the second of the second of the second of the second of		
C. MATERIAL INFORMATION	D. REGULATORY INPORMATION		
1. Common Name SPENT HYDROCHLORIC ACID	1. CFM Mazardous Waster		
Describe Process Generating Material: U See Attact	ned Code, book, botto, and the Chale		
OUEANING OF STEEL PRIOR GALVANIZING	Code:		
the think with the company was pringer from not the company to the first the	3. Is this material non-hazardous due to Treatment, Tyes* Mo		
The water as the same of	Delisting of an Excusion?		
2 Marerial Composition and Contaminants: U See Attac	4. Contains Uniderlying Hazardous Constituents?		
1 WATER And the second	5. From an industry regulated under Benzene NESHAP? U Yes* 22 No 6. Facility remediation subject to 40 CFR 53 GGGGG? U Yes* 22 No		
2. HYDROCHLORIC ACID.			
2-1	0.96   2 NPC of State recolated radioactive or NORM waste? Q Yes* 4 No		
· · · · · · · · · · · · · · · · · · ·	11 Yes, see Addendim (page 2) for additional questions and space.		
A ZINC (NOT FUNE OR DUST)  Total comp. must be equal to or greater than 100% 2700%  3. State Waste Codes  4. Color GREENISH  4.	9. Contains PCBs? > If Yes, answer a, band C		
3. State Waste Codes	a. Regulated by 40 CFR 7617  D Yes D No  b. Remediation under 40 CFR 761.61 (a)?		
4: Color Greenish	b. Remediation under 40 CFR.761.61 (a)?		
5. Physical State at 70 P. U Sond: 24 Liquid U Organ;	C. Were PCB imported into the US7		
	N/A 10, Regulated and/or Untreated D.Yes El No. N/A Medical/Infectious Waste?		
7. pH:0.0 to 2.0 to 2.0 A Strong Odor - 2 Yes O Mo Describe: ACIDIC - Control of the ACIDIC - Control			
a 74000 and 1.4000 5000 per 1000 5000 11.20 10.00 per 1000 5000 11.20 10.00 per 1000 1000 1000 1000 1000 1000 1000 10	N/A -> If Yes: D Non-Friable D Non-Friable - Regulated D Friable		
e. Analytical and other representative information	Yes 1. D One-Time Event  Repeat Event/Ongoing Business		
Childring Incompressed to the court of the first of the court of the c	Yes 1. D One-Time Event of Repeat Event/Ongoing Business 2. Estimated Quantity/Unit of Measure: 10000		
Please identify applicable samples and/or lab reports:			
The state of the s	3. Container Type and Size: A Container Type and		
The same transfer and the same	The state of the s		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	YES ROUNSEAN WASTE CORROSMELICUID, ACIDIC, INCROMIC, NO. 6, 8, 8		
2. Other information attached (such as MSDS)?	parts of the state		
G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)	(RE)		
By signing this EX Profile <sup>M</sup> form, I hereby certify that all information submitted in t	the and an accompany security is a constant of a constant of the security of the attached was derived		
from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by	ity known and subjection and the description of the character of the contents (i.e., changes using an equivalent method. All changes occurring in the character of the contents (i.e., changes us to Meste Management.)		
in the blocess of new subjugged) will be absurated by the development are no decrease	20 O Albaro Managarian kura ta kamandi managarian ana ana ana ana ana ana ana ana ana		
if i am an agent signing on behalf of the នៃខ្ញុំកង្ខ្លាំង too, I have confirmed with Generator the information and significant	The Occopy		
Generator the state of the stat			
Name (Print) is the requirement of the state	a contraction and a second and a second and a second and a second and a second and a second and a second and a		
Title:	12.21.16		
Company	- Andrew Control of the Control of t		
	Revised June 30, 2015		
THINK GREEN? QUESTIONSY CALL	800 983 4776 FOR ASSISTANCE 62015 Weste Management		



	_
EZ Profile™	Addendum

Only complete this Addendum if prompted by responses on EZ	Profile™ (page 1) Profile Number:
or to provide additional information. Sections and question nur EZ Profile <sup>TM</sup> .	nbers correspond to
. Material Information	and almost things additional pages
escribe Process Generating Material (Continued from page 1):	If more space is needed, please attach additional pages.
1,	
, · · · · · · · · · · · · · · · · · · ·	
laterial Composition and Contaminants (Continued from page 1):	If more space is needed, please attach additional pages.
	-0-
5. <b>Vocs</b> 6.	32
7.	
8	·
36.	to proreater than 100% ≥100%
Total co	emposition must be equal to or greater than 100% ≥100%
. REGULATORY INFORMATION Only questions with a "Yes" response in Section D on the EZ Profile™ fo EPA Hazardous Waste a. Please list all USEPA listed and characteristic waste code numbers:	orm (page 1) need to be answered here.
d, Fledge list all OSEI A listed and divini account	
	,
,	
b. Is the material subject to the Alternative Debris standards (40 CFR 268.4	15)?
c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)	D → π yes (Cilimhele duesuon →
d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?	☐ Yes ☐ No
→ if Vac place check one of the following:	
12 Martin month LDB or treatment exemptions for organics (40 CFR 2	264.1082(c)(2) or (c)(4))
Waste contains VOCs that average <500 ppmw (CFR 264.1082(C	:)(1}) – will require annual update.
State Paradous Waste A Please list all state Waste Codes:	N.C.
. For material that is Treated, Delisted, or Excluded → Please indicate the cat	tegory, below.
□ Delisted Hazardous' Waste □ Excluded Waste under 40 CFR 2	is Waste -> If checked, complete question 4.
☐ Treated Hazardous Waste Debris ☐ Treated Characteristic Hazardous	Constituents:
4. Underlying Hazardous Constituents → Please list all Underlying Hazardous	CO/SQUEGITO.
	·
	•
Conden them	sical manufacturing plants, coke by-product recovery plants, and TSDFs
Industries regulated under Benzene NESHAP include petroleum refineries, chem	eiter If not continue.
a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionn	and, prior, contained
b. Does this material contain benzene?	ppmw
If yes, what is the flow-weighted average concentration?  The following is the flow-weighted average concentration?  The following is the flow-weighted average concentration?	ns? □<1 Mg □ 1-9.99 Mg □ ≥10 Mg
c. What is your facility's current total annual benzene quantity in Megagram	□ Yes □ No
<ul><li>d. Is this waste soil from a remediation?</li><li>1. If yes, what is the benzene concentration in remediation waste?</li></ul>	bbu <sub>A</sub>
e. Does the waste contain > 10% water/moisture?	☐ Yes ☐ No
f. Has material been treated to remove 99% of the benzene or to achieve	<10 ppmw?
g. Is material exempt from controls in accordance with 40 CFR 61.3427	
<ul> <li>If yes, specify exemption:</li> <li>h. Based on your knowledge of your waste and the BWON regulations, do your knowledge of your waste and the BWON regulations.</li> </ul>	you believe that this waste stream is subject to
Annual and and control requirements of on off-site (NUT)	•
	the point of determination?
<ol> <li>CERCLA or State-Mandated clean up,   Please submit the record of becase the evaluation for proper disposal. A "Deformination of Acceptability" may be the evaluation for proper disposal. A "Deformination of Acceptability" may be the evaluation for proper disposal.</li> </ol>	e needed for CERCLA wastes not going to a CERCLA approved facility.
8. NRC or state regulated radioactive or NORM Waste → Please identify Ison	Project burn 30, 201
ny .	• pastead time 30 207

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# **Material Safety Data Sheet**

# Hydrochloric Acid

#### 1, PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrochloric Acid

Synonyms/Generic Names: Aqueous Hydrogen chloride, Muriatic acid.

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.

N4335 Temkin Rd. Columbus, Wl. 53925

For More Information Call: 920-623-2140

(Monday - Friday 8:00-4:30)

IN CASE OF EMERGENCY CALL: CHEMTREC

(24 Hours/Day, 7 Days/Week)

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#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS#	EINECS#/ ELINCS#	Classification*
36 - 38%	Hydrochloric Acid	7647-01-0	231-595-7	C; R35, **

<sup>\*</sup>Symbol and R phrase according to EC Annex1

#### 3. HAZARDS IDENTIFICATION

Clear, colorless solution with caustic odor.

R35 - Causes severe burns.

\$1/2, \$26, \$30, \$45

Routes of Entry: Skin, eyes, inhalation and ingestion.



<sup>\*\*</sup> Subject to the reporting requirements of SARA Title III Section 313

#### Ingredients found on carcinogen lists:

INGREDIENT NAME

NTP STATUS

**IARC STATUS** 

OSHA LIST

**ACGIH** 

Hydrochloric Acid

Not Listed

Not Listed

Not Listed

Not Listed

#### 4. FIRST AID INFORMATION

Inhalation: Inhalation of mists can cause corrosive action on mucous membranes. Symptoms include

burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. Move casualty to fresh air and keep at rest. Get medical attention if symptoms persist.

Eves:

Contact rapidly causes severe damage. Symptoms include eye burns, watering eyes. Permanent

damage to cornea may result. In case of eye contact, rinse with plenty of water and seek medical

attention immediately.

Skin: Seve

Severe and rapid corrosion from contact. Extent of damage depends on duration of contact. Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. harmful if absorbed through skin. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

Ingestion: Do Not Induce Vomiting! Severe and rapid corrosive burns of the mouth, gullet and

gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain. Wash out mouth with water and give a glass of water or milk. Get

medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

#### FLAMMABLE PROPERTIES:

Flash Point:

Not Flammable

Flash Point method:

Not Applicable

Autoignition Temperature:

Not Applicable

Upper Flame Limit (volume % in air):

Not Applicable

Lower Flame Limit (volume % in air):

Not Applicable

Extinguishing Media: Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.

**Special fire-fighting procedures:** Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.

Hazardous combustion products: Emits toxic fumes under fire conditions. (See also Stability and Reactivity section).

Unusual fire and explosion hazards: Material can react with metals to produce flammable hydrogen gas.

#### **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions: See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions: Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Prevent spillage from entering drains. Cautiously add water to spill, taking care to avoid splashing and spattering. Neutralize diluted spill with soda ash or lime. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

#### 7. HANDLING AND STORAGE

**Normal handling:** See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

**Storage:** Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: (consult local authorities for acceptable exposure limits)

<u>Chemical name</u>	Regulatory List	Value and type
Hydrochloric Acid	UK OES STEL USA OSHA PEL USA ACGIH USA NIOSH Canada TLV OSHA IDLH VLE France (STEL)	7 mg/m <sup>3</sup> (10 minutes) 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> TLV Ceiling 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> 50 ppm 7.5 mg/m <sup>3</sup> (15 minutes)

TWA: Time Weighted Average over 8 hours of work. TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit during x minutes. IDLH: Immediately Dangerous to Life or Health

Ventilation: Provide local exhaust, preferably mechanical.

Respiratory protection: If necessary use an approved respirator with acid vapor cartridges.

Eye protection: Wear chemical safety glasses with a face shield for splash protection.

Skin and body protection: Wear neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.

Other Recommendations: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Physical state:

Odor:

Odor Threshold: Specific Gravity:

pH:

Melting Point/Freezing Point:

Boiling Point/Range:

Flammability: Flash point:

Evaporation Rate (Butyl Acetate =1):

Explosive Limits:

Vapor Pressure (at 20°C): Vapor Density (air =1):

Solubility:

Partition coefficient/n-octanol/water:

% Volatile:

Autoignition Temperature:

Clear, colorless to slight yellow liquid

Liquid Acidic

0,25 to 10 ppm

1.1800

1

-46°C (-51°F) 51°C (123°F)

Not Flammable (See section 5) Not Flammable (See section 5)

Not Available

Not Explosive (See section 5)

15 mmHg 1.267

Completely soluble in water

Not Available Not Available See section 5

#### 10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Uncontrolled addition of water.

Incompatibility: Moisture, bases, organic material, metals, carbides, cyanides, chlorates, nitrates, picrates,

permanganate, peroxides, zinc iodide, azides, perchlorates, phosphorus.

Hazardous decomposition products: Carbon oxides.

Hazardous polymerization: Will not occur.

#### 11. TOXICOLOGICAL INFORMATION

Acute Effects: See section 4 for symptoms of exposure and effects. Likely routes of exposure are skin, eyes and inhalation.

Target organs: Kidney, liver, mucous membranes, respiratory system, skin, eyes and cardiovascular system.

#### Acute Toxicity Data:

Hydrochloric acid

Lowest Published Lethal Doses (LDL/LCL)

LDL [Man] Oral; 2857 ug/kg

LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

LD50 [oral, rat]; 700 mg/kg LC50 [rat]; 3124 (1 hour) Chronic Effects: May affect liver, bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, yellowing of teeth and erosion of tooth enamel, dermatitis.

Teratogenicity: Not Available Mutagenicity: Not Available Embryotoxicity: Not Available

Synergistic Products/Effects: Not Available

# 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial): LD50 @ pH of 3 - 3.6

LC80 (72 hours): 56 mg/L (Daphnia Magna)

Persistence and Degradability: Not Available

Bioaccumulative Potential: Not Available

Mobility in Soil: Not Available

Other Adverse Effects: Not Available

#### 13. DISPOSAL CONSIDERATIONS

#### RCRA:

Hazardous waste? Yes RCRA ID number: DO02

Waste Residues: Carefully dilute with water, neutralize per spill procedures in section 6. Neutralized material may be flushed to sewer (REGULATIONS PERMITTINGI) or disposed of through a licensed contractor. Users should review their operations in terms of the applicable federal/nation or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

Product containers: Containers, if thoroughly cleaned, preferably by rinsing three times and handling the rinse water as waste residues, may be disposed of or recycled as non-hazardous waste. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste dessification and proper disposal methods.

# 14. TRANSPORTATION INFORMATION

DOT: UN1789, Hydrochloric Acid, 8, pg II

TDG: UN1789, Hydrochloric Acid, 8, pg II

PIN: Not Available

IDMG: UN1789, Hydrochloric Acid, 8, pg II

Marine Pollutant: No

IATA/ICAO: UN1789, Hydrochloric Acid, 8, pg II

# 15. REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the TSCA inventory.

#### Federal and State Regulations:

Connecticut hazardous material survey: Hydrochloric acid

Illinois toxic substances disclosure to employee act: Hydrochloric acid

Illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid

Rhode Island RTK hazardous substances: Hydrochloric acid

Pennsylvania RTK: Hydrochloric acid

Minnesota: Hydrochloric acid

Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid

New Jersey: Hydrochloric acid

New Jersey spill list: Hydrochloric acid

Louisiana RTK reporting list; Hydrochloric acid Louisiana spill reporting; Hydrochloric acid

California Director's List of Hazardous Substances: Hydrochloric acid

SARA 302/304/311/312 extremely hazardous substances: Hydrochloric Acid SARA 313 toxic chemical notification and release reporting: Hydrochloric Acid CERCLA: Hazardous Substances: Hydrochloric Acid, 5000lbs.

California Proposition 65:

No

WHMIS Canada:

Class E - corrosive liquid.

Class D-2A - Material causing other toxic effects (very toxic)

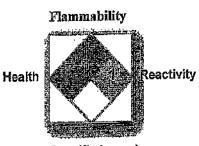
DSCL (EEC):

R35 - Causes severe burns.

#### HMIS (U.S.A.)



National Fire Protection Association (U.S.A.)



Specific hazard

# **Protective Equipment:**



ADR (Europe):



TDG (Canada):



DSCL (Europe):



# 1. OTHER INFORMATION

Current Issue Date: November 30, 2005

Previous Issue Date: N/A

Prepared by: Sherry Brock (920) 623-2140

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should safisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION)
WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.

EZ Profile<sup>TM</sup>



Requested Fadility:    Multiple Generator Locations (Attach Locations)   Request Certificate of Disposal   Renewal? Original Profile Number:
A. GENERATOR INFORMATION (MATERIAL ORIGIN)  1. Generator Name  2. Site Address:  (City, State, ZIP)  3. County: 1  4. Contact Name:  5. Email:  6. Phone: 2  7. Fax:  7. Fax:  7. WM Hauled?  8. RO. Number:
A. Generator Name  2. Site Address:  (City, State, ZIP)  3. County:  4. Contact Name:  5. Email:  7. Fax:  7. Fax:  7. WM Hauled?  8. RO. Number:
1, Generator Name 2, Site Address: (City, State, ZIP) 3, County: 1 4, Contact Name: 4, Email: 5, Email: 7, Fax: 7, WM Hauled? 8, Generator EPA ID:  1, Billing Name: 2, Billing Address: (City, State, 2) 3, Contest: 4, Email: 5, Phone 7, WM Hauled? 8, Ro, Number:
2. Site Address:
(City, State, ZIP)  3. Country:
3. Country:
4. Contact Name:  5. Email:  7. Fax:  7. Fax:  7. WM Hauled?  8. Genérator FPA ID:  9. Number:
5. Email: 5. Phone 5. Phone 7. Fax: 7. WM Hauled? 7. WM Hauled? 8. Generator EPA ID: QN/A 8. RO. Number:
6.5 Phone: 4-11 7. Fax: 7. WM Hauled? 2. 12. 13. 14. 15. 15. 15. 15. 15. 15. 15. 15. 15. 15
6: Phone: 7. Fax: 7. WM Hauled? 8. Generator EPA ID: UN/A 8. R.O. Number:
8. Generator EPA ID: CI N/A   8. R.O. Number:
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9. State ID: 4 Cash U Credit Card
C. MATERIAL INFORMATION  D. REGULATORY INFORMATION
1. EPA Hazardous Waste?
Code boos boos poor DOOR DOOR
Describe Process Generating Material: Describe Process Generating Mate
Code
3. Is this material non-hazardous due to Treatment. Or Year 5/ No
Delisting or an Exclusion?
4 Contains Underlying Hazardous Constituents?
2. Material Composition and Contaminants:
1.1 WATER as the property of t
12 avaparation for form 4020, with the state of the state
13 TROV
A STAP FUNCTION OF DUCT : STAP STATE OF DUCT : STAP STATE OF DUCT : STAP STATE OF DUCT :
Total compunies be equal to or greater than 100% ≥700% 9. Contains PCBs? → If Yes, answer a, bland c. □ Yes □ No  3. State Waste Codes:  4. Color: GREENISH  D. No. Regulated by 40 CFR 761.61 (a)? □ Yes □ No  D. Remediation under 40 CFR 761.61 (a)? □ Yes □ No
3. State Waste Codes. A Regulated by 40 CF8 761?
a. Regulated by 40 CF8 761.61 (a)?  4. Color: GREENISH  b. Remediation under 40 CFR 761.61 (a)?
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_8. Strong Odorus 图 Yes U No Describe: ACIDIO 17-3-3-1-1-1
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E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION F. SHIPPING AND DOT INFORMATION
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2. Estimated Quantity/Unit of Measures 100.000
Please identity applicable samples all tooks Drums Dignals Dotter;
The state of the s
TINA
4. CODOT TOPE STAPPING NO. 6.11
2. Other Information attached (such as MSDS)?   Q Yes Ro. Discost Waster Correction, Addition Research Control of the Control
AND AND AND AND AND AND AND AND AND AND
G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)  By signing this EZ Profile!** form, I hereby certify that all information submitted in this and all attached documents contain true and accounts descriptions of this material, and that  By signing this EZ Profile!** form, I hereby certify that all information submitted in this and all attached documents contain true and accounts descriptions of this material, and that  By signing this EZ Profile!** form, I hereby certify that all information and its information and suspected hazards has been provided. Any analytical data attached was derived.
By signing this EZ Profile. Form, thereby cardify that all information submitted in this and all attached documents containing an accurate the beau provided. Any analytical data attached was derived all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived any relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived any relevant in the characterization and the identification and identification and the identification and the identification and the identification and the identification and the identification
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If I am an agent signing on behalf of the Generator, I have confirmed with the
Ganarator
Name (Pr
Company





# EZ Profile™ Addendum

MASTE MANAGEMENT	
Only complete this Addendum if prompted by responses on EZ I	Profile Number:
or to provide additional information. Sections and question nur	nbers correspond to
EZ Profile <sup>TM</sup> .	
MATERIAL INFORMATION	If more space is needed, please attach additional pag
ascribe Process Generating Material (Continued from page 1):	( ) I MAGE SPACE TO SEE THE SPACE TO SET
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), Signature of the Control of the C	omposition must be equal to or greater than 100% ≥100%
Parent and	
regulatory information	45
REGULATORY INFORMATION nly questions with a "Yes" response in Section D on the EZ Profile™ fo	rm (page 1) need to be answered here.
FPA Hazardous Waste	
a. Please list all USEPA listed and characteristic waste code numbers:	
	•
·	
b. Is the material subject to the Alternative Debris standards (40 CFR 268.4	45)7 Q Yes Q
c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)	7 → If Yes, complete question 4.
d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?	☐ Yes ☐
3 1636s shows shock one of the following:	
The same is an extraord point over the for organics (40 CFR 2	264.1082(c)(2) or (c)(4))
Waste contains VOCs that average <500 ppmw (CFR 264.1062(€	:)(1)) — will require annual update.
State Unandous Weste -> Please list all state Waste COGES:	
The manufacture is Treated Delicted or Evolutied -> Please Indicate the Cal	tegory, below:
	TO I 44 "Z SDECIN LAGICION"
☐ Treated Hazardous Waste Debris ☐ Treated Characteristic Hazardou	is Waste → If checked, complete question 4.
Underlying Hazardous Constituents → Please list all Underlying Hazardous	Constituents;
·	t. t TC
Industries regulated under Benzene NESHAP Indude petroleum refineries, chem	nical manufacturing plants, coke by-product recovery plants, and its
a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionn	naire. if not, continue.
b. Does this material contain benzene?	Pi
1. If yes, what is the flow-weighted average concentration?	- A M. D. ( A 00 Ma. D. 20)
c. What is your facility's current total annual benzene quantity in Megagran	ns? □ < img □ (-3.55 mg □ 2.76
d. Is this waste soil from a remediation?	
<ol> <li>If yes, what is the benzene concentration in remediation waste?</li> </ol>	
Does the waste contain >10% water/moisture?	D.V.,
f. Has material been treated to remove 99% of the benzene or to achieve	<10 ppmw/
g. Is material exempt from controls in accordance with 40 CFR 61.3427	. eas 15-a-
	you hallows that this wants stream is subject to
h. Based on your knowledge of your waste and the BWON regulations, do t	you believe that this waste stream is subject to
treatment and control requirements at an on-site 1507?	t the point of determination?
treatment and control requirements at all of the 1500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 63 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs at 3.40 CFR 64 GGGG → Does the material contain <500 ppmw VOHAPs (The material Contain Contain Contain Contain Contain Contain Contain Cont	top or other documentation with process information to assist oth
<ol> <li>40 CFR 63 GGGGG → Does the material contain &lt;500 ppmw vortages at 7. CERCLA or State—Mandated clean up → Please submit the Record of Decision the evaluation for proper disposal. A "Determination of Acceptability" may be submit to the evaluation of Acceptability.</li> </ol>	e needed for CERCLA wastes not going to a CERCLA approved fac
The eventuation for proport disposal. A "Despirational of the Auctivity of the	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
3. NRC or state regulated radioactive or NORM Waste → Please Identify iso	

THINK GREEN:

1;

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Revised June 30, 2015 ©2015 Waste Management



# **Material Safety Data Sheet**

# Hydrochloric Acid

# 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrochloric Acid

Synonyms/Generic Names: Aqueous Hydrogen chloride, Muriatic acid.

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.

N4335 Temkin Rd. Columbus, Wl. 53925

For More Information Cail: 920-623-2140

(Monday - Friday 8:00-4:30)

IN CASE OF EMERGENCY CALL: CHEMTREC

(24 Hours/Day, 7 Days/Week)

800-424-9300

# 2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS#	EINECS#/ ELINCS#	Class!fication*
36 - 38%	Hydrochloric Acid	7647-01-0	231-595-7	C; R35, **
(				

<sup>\*</sup>Symbol and R phrase according to EC Annex1

# 3. HAZARDS IDENTIFICATION

Clear, colorless solution with caustic odor.

R35 - Causes severe burns.

S1/2, S26, S30, S45

Routes of Entry: Skin, eyes, inhalation and ingestion.



<sup>\*\*</sup> Subject to the reporting requirements of SARA Title III Section 313

#### Ingredients found on carcinogen lists:

INGREDIENT NAME

**NTP STATUS** 

**IARC STATUS** 

OSHA LIST

**ACGIH** 

Hydrochloric Acid

Not Listed

Not Listed

Not Listed

Not Listed

#### 4. FIRST AID INFORMATION

Inhalation: Inhalation of mists can cause corrosive action on mucous membranes. Symptoms include

burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.

Move casualty to fresh air and keep at rest. Get medical attention if symptoms persist.

Contact rapidly causes severe damage. Symptoms include eye burns, watering eyes. Permanent Eyes:

damage to cornea may result. In case of eye contact, rinse with plenty of water and seek medical

attention immediately.

Severe and rapid corrosion from contact. Extent of damage depends on duration of contact. Skin:

Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. harmful if absorbed through skin. Immediately flush with plenty of water for at least 15 minutes

while removing contaminated clothing and wash using soap. Get medical attention immediately.

Ingestion: Do Not Induce Vomiting! Severe and rapid corrosive burns of the mouth, gullet and

gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain. Wash out mouth with water and give a glass of water or milk. Get

medical attention immediately.

# 5. FIRE-FIGHTING MEASURES

#### FLAMMABLE PROPERTIES:

Flash Point:

Not Flammable

Flash Point method:

Not Applicable

Autolonition Temperature:

Not Applicable

Upper Flame Limit (volume % in alr):

Not Applicable

Lower Flame Limit (volume % in air):

Not Applicable

Extinguishing Media: Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.

Special fire-fighting procedures: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.

Hazardous combustion products: Emits toxic fumes under fire conditions. (See also Stability and Reactivity section).

Unusual fire and explosion hazards: Material can react with metals to produce flammable hydrogen gas.

# 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions: Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Prevent spillage from entering drains. Cautiously add water to spill, taking care to avoid splashing and spattering. Neutralize diluted spill with soda ash or time. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

#### 7. HANDLING AND STORAGE

**Normal handling:** See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Storage: Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills.

# 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: (consult local authorities for acceptable exposure limits)

Chemical name	Regulatory List	Value and type
Hydrochloric Acid	UK OES STEL USA OSHA PEL USA ACGIH USA NIOSH Canada TLV OSHA IDLH VLE France (STEL)	7 mg/m <sup>3</sup> (10 minutes) 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> TLV Ceiling 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> 50 ppm 7.5 mg/m <sup>3</sup> (15 minutes)

TWA; Time Weighted Average over 8 hours of work. TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit during x minutes. IDLH; Immediately Dangerous to Life or Health

Ventilation: Provide local exhaust, preferably mechanical.

Respiratory protection: If necessary use an approved respirator with acid vapor cartridges.

Eye protection: Wear chemical safety glasses with a face shield for splash protection.

Skin and body protection: Wear neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.

Other Recommendations: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Physical state:

Odor:

Odor Threshold:

Specific Gravity:

pH:

Melting Point/Freezing Point:

Boiling Point/Range:

Flammability: Flash point:

Evaporation Rate (Butyl Acetate =1):

Explosive Limits:

Vapor Pressure (at 20°C): Vapor Density (air =1):

Solubility:

Partition coefficient/n-octanol/water.

% Volatile:

Autoignition Temperature:

Clear, colorless to slight yellow liquid

Liquid

Acidic

0.25 to 10 ppm

1.1800

1

-46°C (-51°F)

51°C (123°F)

Not Flammable (See section 5) Not Flammable (See section 5)

Not Available

Not Explosive (See section 5)

15 mmHg 1.267

Completely soluble in water

Not Available Not Available See section 5

# 10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Uncontrolled addition of water.

Incompatibility: Moisture, bases, organic material, metals, carbides, cyanides, chlorates, nitrates, picrates,

permanganate, peroxides, zinc iodide, azides, perchlorates, phosphorus.

Hazardous decomposition products: Carbon oxides.

Hazardous polymerization: Will not occur.

#### 11. TOXICOLOGICAL INFORMATION

**Acute Effects:** See section 4 for symptoms of exposure and effects. Likely routes of exposure are skin, eyes and inhalation.

Target organs: Kidney, liver, mucous membranes, respiratory system, skin, eyes and cardiovascular system.

#### Acute Toxicity Data:

Hydrochioric acid

Lowest Published Lethal Doses (LDL/LCL)

LDL [Man] Oral; 2857 ug/kg

LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

LD50 [oral, rat]; 700 mg/kg LC50 [rat]; 3124 (1 hour) Chronic Effects: May affect liver, bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, yellowing of teeth and erosion of tooth enamel, dematitis.

conjunctivities, years wing or teeth and end

Teratogenicity: Not Available Mutagenicity: Not Available Embryotoxicity: Not Available

Synergistic Products/Effects: Not Available

#### 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial): LD50 @ pH of 3 - 3.6

LC80 (72 hours): 56 mg/L (Daphnia Magna)

Persistence and Degradability: Not Available

Bioaccumulative Potential: Not Available

Mobility in Soil: Not Available

Other Adverse Effects: Not Available

# 13. DISPOSAL CONSIDERATIONS

RCRA:

Hazardous waste? Yes RCRA ID number: DOO2

Waste Residues: Carefully dilute with water, neutralize per spill procedures in section 6. Neutralized material may be flushed to sewer (REGULATIONS PERMITTING!) or disposed of through a licensed contractor. Users should review their operations in terms of the applicable federal/nation or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

Product containers: Containers, if thoroughly cleaned, preferably by rinsing three times and handling the rinse water as waste residues, may be disposed of or recycled as non-hazardous waste. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

#### 14. TRANSPORTATION INFORMATION

DOT: UN1789, Hydrochloric Acid, 8, pg !!

TDG: UN1789, Hydrochloric Acid, 8, pg II

PIN: Not Available

IDMG: UN1789, Hydrochloric Acid, 8, pg II

Marine Pollutant: No

IATA/ICAO: UN1789, Hydrochloric Acid, 8, pg II

# 15. REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the TSCA inventory.

Federal and State Regulations:

Connecticut hazardous material survey: Hydrochloric acid

Illinois toxic substances disclosure to employee act: Hydrochloric acid

Illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid

Rhode Island RTK hazardous substances: Hydrochloric acid

Pennsylvania RTK: Hydrochloric acid

Minnesota: Hydrochloric acid

Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid

New Jersey: Hydrochloric acid

New Jersey spill list: Hydrochloric acid

Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Hydrochloric acid

California Director's List of Hazardous Substances: Hydrochloric acid

SARA 302/304/311/312 extremely hazardous substances: Hydrochloric Acid SARA 313 toxic chemical notification and release reporting: Hydrochloric Acid

CERCLA: Hazardous Substances: Hydrochloric Acid, 5000lbs.

California Proposition 65:

WHMIS Canada:

No

Class E - corrosive liquid.

Class D-2A - Material causing other toxic effects (very toxic)

DSCL (EEC):

R35 - Causes severe burns.

HMIS (U.S.A.)



National Fire Protection

Association (U.S.A.)



Health



Specific hazard

# **Protective Equipment:**



# ADR (Europe):



#### TDG (Canada):



#### DSCL (Europe):



# 1. OTHER INFORMATION

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