

APPENDIX E

ENVIRONMENTAL COMPATIBILITY, MEMOS AND REPORTS

MONS 021601

1/74

30 Hours

0.25% AlCl_3

250°C

CR

Steel A285W
18-6Y3

Very Uniform Attack

Honor 65 W
621

Very Uniform, Light,
Attack

Passivity C
63 KW

No Attack

DW. S. S. S.

NBP 257498

Nov 27

Bill Daniels

I have looked at
these 2 steel coupons, and
essentially no local attack

Dario Cova has original
weights and will weigh them
back.

Call Dario at 4-4676 so
he can pick them up for weighing

I don't know if he can
calculate a corrosion rate

Samples exposed 4.5 hours
at 250°C in liquid phase

Aroclor 1142 + $AlCl_3$

AO Fisher

MONS 021603

TABLE XXII
CORROSION DATA CHLORINATION

Page No	Material	Wt. Loss mg	Exposure Time hrs	Temp. (°C)	Mils/yr	Conditions
257436	Steel A-285-261 643	3.6	8.5	150	11	0.5% AlCl ₃ , chlorination after isomerization
257440-1	Steel A-285 24 643	106.2	17.3	150 & 180	170	Two reactions, after the first one, temp. was raised to 180°C for 4 hours. Al equivalent to 1.0% AlCl ₃ and 0.05% FeCl ₃ were catalyst
257448	Steel A-238W 15 643	2.0	6.0	200	9	0.2% AlCl ₃ , catalyst
227242	Steel A-235W 15 643	5.2	10.0	150 & 200	13	0.4% AlCl ₃ , catalyst. Reax. at 150°C then 4 hours at 200°C for isomerize
227243	Steel A-235W 15 643	5.1	5.0	200	27	0.4% AlCl ₃ , catalyst
227244	Steel A-235W 15 643	10.3	4.5	150	61	0.08% Al + 0.05% FeCl ₃ , catalyst
265305	Steel A-285W 19 643	2.3	6.3	250	10	0.2% AlCl ₃ ,
227245	Steel A-235W 15 643	1.1	6.2	200	5	0.1% AlCl ₃ ,
227246	Steel A-235W 15 643	59.5	6.0	150	260	0.2% Al + 0.05% FeCl ₃ , catalyst
227246	Monel M-W 72 621	24.7	6.0	150	94	" " " " "
265307	Steel A-285W 19643	6.7	5.5	250	~30	0.4% AlCl ₃ , catalyst
265307	Monel M-W 65621	2.3	5.5	250	~7	" " "

MONS 021604

TABLE XXI (Continued)
CORROSION DATA ISOMERIZATION

Page No.	Material	Wt. Loss mg	Exposure Time hrs	Temp. (°C)	Mils/yr	Conditions
265316	Steel A-285W-10643	3.0	8.0	250	10	Isom. over 0.25% AlCl ₃ after chlorination over FeCl ₃
265316	Hastelloy C HC 65K HCN	0.9	8.0	250		" " " "
227251	Steel A-285W-10643	4.8	30.0	250	4.0	Isom. over 0.28% AlCl ₃ - 5 batches
227251	Monel M-W 65 621	1.7	30.0	280	1.3	" " " " "
227251	Hastelloy C 63K HCN	1.3	30.0	280	1.2	" " " " "
227260	Steel A-285W-10643	6.7	10.0	250	18	Isom. over 0.28% AlCl ₃ - 2 batches
227260	Monel M-W 65621	3.8	10.0	280	8	" " " " "
227260	Hastelloy C 63K HCN	2.0	10.0	280	5.8	" " " " "
267498	Steel A-288-300-731	5.8	45.0	280	3.3	Isomerization over 0.28% AlCl ₃ - 9 batches
267498	Steel A-288-299-731	4.4	45.0	280	2.6	" " " " "
293107	Steel A-288-24-643	7.3	45.0	280	4.1	Isomerization over 0.40% AlCl ₃ - 9 batches
293107 298	Steel A-288-25-643	8.4	45.0	280	5.0	" " " " "

MONS 021605

TABLE XXI
CORROSION DATA ISOMERIZATION

Page No.	Material	Wt. Loss mg	Exposure Time hrs	Temp. (°C)	Mils/yr	Conditions
257436	Steel A-285-266643	34.3	4.3	200	214	0.5% AlCl ₃ , two reactions of two hours each
257439	Steel A-285W-19-643	19.3	46	180	12	0.5% AlCl ₃ , two replacements of reax mass - ortho fraction used
257439	Steel A-285W-28-643	16.6	46	200	10	Same as above
265311	Monel M-W 65821	4.0	4.0	200	23	0.5% AlCl ₃ , isomerization after chlorination over FeCl ₃
265311	Steel A-285W-19643	4.2	4.0	200	28	" " " "
265313	Steel A-285W-19643	2.9	4.0	200	20	0.2% AlCl ₃ , isomerization after chlorination over FeCl ₃
265313	Monel M-W 65621	0.6	4.0	200	3	" " " "
265314	Steel A-235W-15643	6.5	4.2	180	42	0.5% AlCl ₃ , isomerization after chlorination over FeCl ₃
265314	Monel M-W 72621	2.0	4.2	180	11	" " " "
265316	Steel A-285W-5643	4.8	4.0	250	33	Isomerization over 0.4% AlCl ₃ , after chlorination over FeCl ₃
265316	Hastelloy C HC 65K HCN	4.3	4.0	250		" " " "

MONS 021606