

1

00:00:00,000 --> 00:00:04,720

Do not try what you're about to see at home. We're what you call experts

2

00:00:30,520 --> 00:00:34,680

Did you bring it? Yeah, we brought it

3

00:00:48,080 --> 00:00:50,080

It's beautiful

4

00:00:50,160 --> 00:00:55,320

That's right folks. We are smack at the beginning of a myth busters breaking bad special

5

00:00:55,560 --> 00:01:00,020

It's gonna be unstable

6

00:01:07,480 --> 00:01:14,320

As we break out with breaking back Walter white with 50 grams of mercury-phalming

7

00:01:14,320 --> 00:01:23,760

Who are the myth busters Adam Savage

8

00:01:25,760 --> 00:01:32,760

And Jamie Heineman, I feel like I just got spanked between them for 30 years of special effects experience

9

00:01:33,760 --> 00:01:37,640

Together with Brad in a horror somebody ordering explosion carry buyer

10

00:01:44,320 --> 00:01:48,760

They don't just tell the myths they put them to the test

11

00:02:05,600 --> 00:02:08,280

Shall we get our viewers up to speed okay ladies and gentlemen

12

00:02:08,440 --> 00:02:15,200

This is Vince Gilligan creator of the amazing show breaking bad and this is Aaron Paul who plays one of the main characters on the show

13

00:02:15,320 --> 00:02:18,880

Jesse Pinkman now a few months ago Vince was asked in an interview

14

00:02:19,240 --> 00:02:23,520

What show he would most like to do a crossover with breaking bad and his answer was

15

00:02:23,920 --> 00:02:26,280

Myth busters so guys what do you have for us?

16

00:02:26,880 --> 00:02:29,400

well breaking bad is is usually about

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00:02:29,800 --> 00:02:32,680

Walt and Jesse get themselves into a whole lot of trouble and

18

00:02:33,440 --> 00:02:37,360

Typically, it's science that bails them out, but you know, we've been getting a lot of grief

19

00:02:37,600 --> 00:02:45,200

Whether or not that that science is actually scientifically accurate and we're here hoping you can separate breaking bad fact from fiction

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00:02:45,600 --> 00:02:47,080

Like what first off?

21

00:02:47,080 --> 00:02:52,840

Can you indeed use mercury fulminate as an impact explosive and decimate an entire room?

22

00:02:54,640 --> 00:03:02,800

Nice and to can you dissolve through a bath the floor and ceiling just by filling up the tub with hydrofluoric acid

23

00:03:03,640 --> 00:03:10,840

Explosives and acid let's party totally yes

24

00:03:12,480 --> 00:03:20,320

The hit show breaking bad sees chemistry teacher Walt at his dropout student take on the crazy world of cartels

25

00:03:20,440 --> 00:03:23,760

Prime and crystal there is gold in the streets

26

00:03:24,360 --> 00:03:28,920

But while science is always on their side is that chemistry correct?

27

00:03:29,320 --> 00:03:32,760

Well first up it's rubber dub dub

28

00:03:33,680 --> 00:03:39,240

Acid eats through a top can hydrofluoric acid really chew through a crime scene

29

00:03:42,960 --> 00:03:47,000

And for this acid test, what's the plan?

30

00:03:48,520 --> 00:03:52,380

Clearly we should start in small scale with I think small samples of each of the

31

00:03:52,700 --> 00:03:57,100

Substances the acid's supposed to have eaten through like ceramic for the bath steel for the gun

32

00:03:57,540 --> 00:04:00,020

pig bone and pig flesh for the body and

33

00:04:00,220 --> 00:04:06,140

Wood for the floor and see if the acid actually reacts with it and if it can then you'll ramp up to full scale

34

00:04:06,180 --> 00:04:09,180

We're gonna rip it up to full scale no matter what but yes exactly

35

00:04:09,300 --> 00:04:16,060

Well, there's one thing you guys need to remember HF is really really dangerous. Yeah, that's an understatement

36

00:04:16,380 --> 00:04:20,860

We're gonna really have to lock down our safety procedures. Good luck. Yeah, good luck

37

00:04:23,060 --> 00:04:29,340

And since hydrofluoric acid is so toxic that even a tiny amount on your skin could be deadly

38

00:04:29,820 --> 00:04:36,660

Stylish it's off to Berkeley where their crack team of chemists have a supply of this concentrated corrosive

39

00:04:36,940 --> 00:04:44,220

The in the actual program Walt describes hydrofluoric acid as being capable of dissolving metal rock glass and ceramic all

40

00:04:44,420 --> 00:04:51,020

Materials commonly findable in an average bathroom. We've added a couple of others plus our favorite human analog pig

41

00:04:51,380 --> 00:04:55,060

We're gonna introduce them to some hydrofluoric acid see what happens

42

00:04:55,220 --> 00:05:00,140

All right, so I'm gonna go ahead and load these with 100 mils of hydrofluoric acid

43

00:05:00,660 --> 00:05:03,160

Eric the chemist carefully pours the acid

44

00:05:04,220 --> 00:05:09,760

No, there's the meat. It's not bubbling up right away though. Is it? No smoking

45

00:05:10,660 --> 00:05:14,500

Making sure that all the samples receive exactly 100 mils

46

00:05:15,740 --> 00:05:19,740

Well now the most crucial aspect of any experiment waiting. Yep

47

00:05:20,420 --> 00:05:27,300

And after an eight hour soak in their acid bath according to breaking bad there should be nothing left, right?

48

00:05:27,820 --> 00:05:31,140

See what we got some residue on the bottom there

49

00:05:32,260 --> 00:05:39,860

But it seems completely unaffected by the acid. Yeah, the steel is still intact and so is the linoleum and the wood

50

00:05:39,900 --> 00:05:45,140

It seems like it's pretty much unaffected, but the drywall is a different matter. Oh

51

00:05:45,980 --> 00:05:49,020

Oh, the drywall is just a soggy soupy mush

52

00:05:49,740 --> 00:05:55,420

Looks like the plaster is pretty much gone and the acid has also affected the cast iron top

53

00:05:55,460 --> 00:06:01,460

Yeah, it's clearly eaten through the ceramic glaze. Look at that underneath. It feels quite solid

54

00:06:02,060 --> 00:06:04,420

Now for the meat the main course

55

00:06:05,660 --> 00:06:11,300

Yeah, it's definitely affected the meat, but you know, I still see a bunch of fatty tissue there

56

00:06:11,780 --> 00:06:16,780

Despite some minor changes the acid failed to chew through every single material

57

00:06:16,780 --> 00:06:21,700

So it's clear the hydrofluoric doesn't have the same bite as breaking bad

58

00:06:22,940 --> 00:06:28,420

So at this point it's looking pretty clear that hydrofluoric acid is not living up to the breaking bad series of events

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00:06:28,420 --> 00:06:32,540

So there's no doubt that this is a very dangerous and potentially lethal asset

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00:06:32,540 --> 00:06:37,420

But when it comes to turning a body into mulch in a few minutes, it's not the acid of choice

61

00:06:37,900 --> 00:06:44,120

But that begs a real question. What is the acid of choice? Well, don't go anywhere because when we come back

62

00:06:44,580 --> 00:06:46,580

We're gonna find out

63

00:06:46,780 --> 00:06:59,180

Next Carrie Torian Grant are throwing down the gauntlet

64

00:07:02,900 --> 00:07:08,540

All right, Carrie, what's with the hazmat suit? We have a classic from season one of breaking bad

65

00:07:08,940 --> 00:07:12,220

Okay, so Walt needs to teach the bad guy lesson. He needs to get away

66

00:07:12,220 --> 00:07:16,300

He grabs what looks to be a crystalline structure, which is actually

67

00:07:16,780 --> 00:07:21,660

Mercury fulminate when the bad guys don't expect anything. He throws it down on the ground and explodes

68

00:07:21,980 --> 00:07:25,820

Blasting out the windows knocking the bad guys out and allowing him to escape wait

69

00:07:25,820 --> 00:07:31,740

So this mercury fulminate is some sort of explosive that you can detonate by throwing it on the ground time for some extremely

70

00:07:32,420 --> 00:07:33,580

dangerous

71

00:07:33,580 --> 00:07:35,580

chemistry

72

00:07:36,140 --> 00:07:37,660

This

73

00:07:37,900 --> 00:07:41,820

Is not a mess armed with his crazy handful of something

74

00:07:43,420 --> 00:07:45,740

Walt lines the bad guys with science

75

00:07:46,460 --> 00:07:52,140

But when his fistful of crystal really decimated a room or is this counterfeit chemistry?

76

00:07:55,260 --> 00:07:59,100

All right, so mercury fulminate is not exactly easy to get so what is that? Are we done?

77

00:07:59,420 --> 00:08:04,940

No, luckily we found a guy who is licensed to make this stuff and oddly enough his name is jesse

78

00:08:05,180 --> 00:08:08,860

Now he has agreed to make us some however we have to do it in a remote location

79

00:08:09,180 --> 00:08:13,420

Why because it's so nasty that if you're making it you want to be out in the middle of nowhere

80

00:08:13,820 --> 00:08:16,140

Yeah, and given that we know so little about this explosive

81

00:08:16,300 --> 00:08:20,220

I say we go out to the remote location and do some explosives tests just to see what it does

82

00:08:20,700 --> 00:08:23,260

I like it a little mercury fulminate 101

83

00:08:27,260 --> 00:08:30,380

So it's off to the quarry to get to know waltz weapon of choice

84

00:08:30,700 --> 00:08:34,300

What are we gonna blow up today?

85

00:08:35,500 --> 00:08:40,780

On breaking bad, Walter white takes some fulminate of mercury throws at the ground and creates an explosion

86

00:08:41,100 --> 00:08:43,980

The question is is it going to explode the way it does in the tv show?

87

00:08:44,300 --> 00:08:49,740

So we've come out here to carcin hill rock quarry where we've done lots of explosions to find out a little bit more about

88

00:08:49,820 --> 00:08:57,660

What it does and how it's made and the person with that classified know-how is the aptly named explosives expert jesse

89

00:08:57,980 --> 00:09:03,980

Mercury fulminate is extremely dangerous and that's why we have jesse taylor

90

00:09:04,140 --> 00:09:08,860

He is our expert now. He is a consultant for the military is homemade explosives

91

00:09:09,260 --> 00:09:15,900

And we're taking all of the precautions here. He's away in a special tent remotely from all of us and only get small batches

92

00:09:17,340 --> 00:09:24,300

So jesse how dangerous is mercury fulminate mercury fulminate is a primary explosive and so it is very sensitive to

93

00:09:24,780 --> 00:09:27,980

Shock and impact friction heat as well as spark

94

00:09:28,700 --> 00:09:32,460

So the good news is this mercurial stuff is very volatile

95

00:09:32,940 --> 00:09:35,900

The bad news is it's a lot less photogenic

96

00:09:36,300 --> 00:09:40,940

The finished product doesn't look like it does on tv right mercury fulminate is normally a powder

97

00:09:41,260 --> 00:09:45,980

In the silver or gray color and in the show it's crystallized and to form those crystals

98

00:09:46,060 --> 00:09:50,140

It's fairly complex probably beyond the scope of an improvised setting like we're in today

99

00:09:50,300 --> 00:09:53,900

I'm gonna let you get back to work because this looks like dangerous stuff. Absolutely

100

00:09:54,540 --> 00:09:56,700

It may look nothing like its tv twin

101

00:09:56,940 --> 00:10:02,060

But now the question is how much bang do you get for your fulminated mercury buck?

102

00:10:02,380 --> 00:10:06,540

Now there are two important differences between what they did on the show and what we're going to do here

103

00:10:07,260 --> 00:10:11,820

The first one is that Walt used 50 grams of fulminated mercury

104

00:10:12,060 --> 00:10:15,980

We're only going to use five since this is the first time we're using it on the show

105

00:10:16,300 --> 00:10:21,020

And the second thing is that in order to activate it. He actually threw it on the floor

106

00:10:21,420 --> 00:10:26,380

For this we're going to use something a bit more controlled. This is a squib and oh, yeah one more thing

107

00:10:26,940 --> 00:10:33,180

We're going to put it inside of a pumpkin. Why a pumpkin? Well to find out if this explosive bears fruit

108

00:10:35,180 --> 00:10:40,380

All right, here we go. This is five grams of mercury fulminate. All right, let the pumpkin fly

109

00:10:41,020 --> 00:10:44,140

In three two one fire

110

00:10:44,700 --> 00:10:46,700

Woo!

111

00:10:48,300 --> 00:10:53,580

The pumpkin is gone! That blows up real good. So I guess we go back to the shop

112

00:10:53,660 --> 00:10:58,300

It's time to really find out if you can throw it and make an explosion. Oh man. This is going to be so much fun

113

00:10:59,660 --> 00:11:01,660

Now what we need to do is test this myth

114

00:11:01,740 --> 00:11:05,980

So we're going to have to figure out a way to throw that mercury fulminate safely onto the ground

115

00:11:06,300 --> 00:11:12,780

And we're going to have to recreate a building just like the one in the tv show so we can see how explosive this stuff really is

116

00:11:14,540 --> 00:11:16,540

So

117

00:11:20,700 --> 00:11:22,700

Coming up on the breaking bad special

118

00:11:23,340 --> 00:11:25,740

Careful about splashing the acid rains

119

00:11:26,060 --> 00:11:29,500

But can it take a bite out of a bathtub like it's on fire?

120

00:11:30,060 --> 00:11:34,700

And the team cooks up some crazy crystal chaos. All right, let's flip this hideout

121

00:11:44,860 --> 00:11:48,380

Yo, i'm jesse pinkman and it's time to science this bia-chuff

122

00:11:49,180 --> 00:11:54,380

The mythbusters are breaking bad scrutinizing their science and checking their chemistry

123

00:11:55,980 --> 00:11:59,900

So could hydrofluoric acid really burn a hole through your bathroom?

124

00:12:02,700 --> 00:12:08,860

Well the body of evidence says no there's been some activity here, but it's not soup

125

00:12:09,420 --> 00:12:11,660

Why? Well, here's adam on acid

126

00:12:12,300 --> 00:12:17,100

All right kids time for a little lesson in acid chemistry editors. Please give me a periodic table right there

127

00:12:17,740 --> 00:12:23,580

Awesome now. Let's highlight the halogens fluorine chlorine bromine iodine and astatine

128

00:12:23,900 --> 00:12:30,620

What's interesting to us about these five elements is their reactivity the lower their atomic number the more reactive they are

129

00:12:30,780 --> 00:12:34,940

That means bromine is more reactive than iodine chlorine more reactive than bromine

130

00:12:35,340 --> 00:12:40,140

And fluorine reacts with nearly every known substance now onto acids

131

00:12:40,700 --> 00:12:41,740

Thank you

132

00:12:41,740 --> 00:12:48,700

Hydrogen creates an acid with each of the halogens and you would be very reasonable to expect that the reactivity of the halogen would correspond

133

00:12:48,860 --> 00:12:50,220

directly to how

134

00:12:50,220 --> 00:12:55,100

Caustic the acid that it makes with hydrogen would be but you'd be wrong in the case of

135

00:12:55,660 --> 00:13:02,300

hydrofluoric acid and it's because of the central bond in hydrofluoric acid that bond between hydrogen and fluorine

136

00:13:02,620 --> 00:13:09,420

See these acids work by releasing hydrogen atoms in the reaction and because that bond between hydrogen and fluorine is so

137

00:13:09,500 --> 00:13:15,180

Strong it doesn't ever want to let go hydrofluoric acid is a less powerful acid than its brethren

138

00:13:15,740 --> 00:13:17,260

lesson out

139

00:13:17,260 --> 00:13:22,220

Hydrofluoric acid may not have the right bite, but jayne has found something that does

140

00:13:22,860 --> 00:13:27,740

According to our experts at berkeley labs that would be almost pure

141

00:13:28,380 --> 00:13:31,900

sulfuric acid along with one other ingredient which

142

00:13:32,700 --> 00:13:35,900

we will refer to as our special sauce because

143

00:13:36,460 --> 00:13:40,380

We're not actually in the business of showing people how to dispose of bodies

144

00:13:41,020 --> 00:13:43,900

Let's just say it turbo charges sulfuric acid

145

00:13:44,620 --> 00:13:50,060

The hydrofluoric acid didn't dissolve the organic matter the bath the floor or the ceiling

146

00:13:51,180 --> 00:13:58,780

But jayme's so confident that this special sauce solution can they're going full scale for this chemical catastrophe

147

00:13:59,020 --> 00:14:02,940

In order to work with acid you need a location that's in the middle of nowhere

148

00:14:02,940 --> 00:14:09,260

And that's where we've come one of our favorite locations the waste management alfamont landfill in livermore, california

149

00:14:09,420 --> 00:14:12,540

Down there in that bowl where jayme's standing. That's ground zero

150

00:14:14,700 --> 00:14:16,700

In this rectangle there's going to be a hole

151

00:14:17,500 --> 00:14:24,300

In that hole there's going to be a tank and that tank is where all the nastiness is going to fall if it burns through the tub and the floor

152

00:14:25,420 --> 00:14:27,420

I would have gotten there eventually

153

00:14:27,820 --> 00:14:29,820

That way it'll be safely contained

154

00:14:30,460 --> 00:14:33,580

Safely contained and unable to fall through the cracks

155

00:14:34,940 --> 00:14:41,020

And it's fully in place the bath that goes under our bath made of crosslink high density polyethylene

156

00:14:42,060 --> 00:14:46,540

And above that goes their elevated bathroom built of course to code

157

00:14:50,060 --> 00:14:52,060

One tub of that

158

00:14:52,700 --> 00:14:58,060

So this is our mocked up bathroom and we've got a floor built to spec. We have a cast iron bathtub

159

00:14:58,460 --> 00:15:00,700

We even have a faux tile wall behind it

160

00:15:01,260 --> 00:15:04,940

But since this special sauce mix we're going to be pouring in the tub is

161

00:15:05,420 --> 00:15:08,940

About the nastiest stuff known to man if you're talking acids

162

00:15:09,500 --> 00:15:12,460

We're going to have to take some special precautions to do it safely

163

00:15:13,020 --> 00:15:15,900

To that end we've employed the help of delta tech services

164

00:15:16,060 --> 00:15:22,220

These guys are hazardous materials cleanup company and they've brought every toy in their arsenal to help us out

165

00:15:23,740 --> 00:15:26,060

Now that's the worst case scenario taken care of

166

00:15:27,020 --> 00:15:29,420

And now to break out the bath

167

00:15:29,580 --> 00:15:35,340

It's time to meet the dangerous stuff in these two bottles nearly pure solution of sulfuric acid

168

00:15:36,380 --> 00:15:42,140

But we make it even stronger by adding this a 30 solution of our special sauce the two of these together

169

00:15:42,540 --> 00:15:44,540

Hopefully we'll get ugly

170

00:15:45,100 --> 00:15:51,340

And here is 35 pounds of dirty drug dealer swine and he's about to take it back

171

00:15:52,060 --> 00:15:54,060

Time to suit up. Let's do it

172

00:15:56,300 --> 00:16:02,540

With the guys has matted up. It's time for the pig to take a bath. Oh, hello, old guy

173

00:16:06,540 --> 00:16:08,300

Oh man

174

00:16:08,300 --> 00:16:14,540

Let's uh, let's get the acid but for our drug dealer swine the toxic trouble just got deeper

175

00:16:15,180 --> 00:16:20,860

In the clip we only ever see jesse pouring two gallons of acid onto the body in the bathtub

176

00:16:20,860 --> 00:16:25,900

But to make triply short that we're totally covered in this experiment. We're using three times that much

177

00:16:26,220 --> 00:16:28,940

Yep, and once the pig is sleeping in the sulfuric

178

00:16:29,420 --> 00:16:31,420

Enter the special sauce

179

00:16:31,660 --> 00:16:34,940

You ready? Yeah, here we go special sauce going in

180

00:16:35,900 --> 00:16:37,900

careful about splashing

181

00:16:37,900 --> 00:16:39,900

smoking coming up

182

00:16:40,140 --> 00:16:42,140

Okay, okay

183

00:16:42,780 --> 00:16:46,220

Shall we retreat to our uh video cave? Yep. Okay

184

00:16:47,180 --> 00:16:48,940

I'm with us

185

00:16:48,940 --> 00:16:56,780

500 feet away the tent is set for their sulfuric surveillance. So now begins the weirdest weight in mythbusters history

186

00:16:59,980 --> 00:17:01,980

This is the worst movie ever

187

00:17:02,860 --> 00:17:07,980

Six gallons of the special sauce solution slowly starts to react with the bath. Oh

188

00:17:09,100 --> 00:17:13,420

Bubbles are starting to form. We've got white foam and its contents

189

00:17:13,980 --> 00:17:18,540

It's getting much darker and gooey over here. There's all this cloudy crap coming into the liquid

190

00:17:18,700 --> 00:17:24,620

But after 40 minutes of gradual changes. Oh, there it is suddenly the chemical reaction heats up

191

00:17:25,420 --> 00:17:28,700

There's a ton of smoke coming off this dude. It's happening. Oh

192

00:17:29,260 --> 00:17:31,260

Oh

193

00:17:31,500 --> 00:17:34,860

Oh pig is dissolving. Look at that. Wow

194

00:17:36,780 --> 00:17:42,460

Oh, look at the thermal camera. It's like hell in a bathtub. It's like it's on fire

195

00:17:43,820 --> 00:17:48,620

As the exothermic reaction gets even more aggressive. The bath is cloaked in smoke

196

00:17:49,260 --> 00:17:54,940

Oh, look at that. Oh my gosh. That's going crazy. That is going we should better clear out of here.
Yeah

197

00:17:55,660 --> 00:18:00,460

That acrid cloud of gas makes monitoring the bathtub not just difficult but dangerous

198

00:18:00,940 --> 00:18:04,220

I totally did not expect this to be so energetic

199

00:18:04,940 --> 00:18:11,660

But eventually when the smoke dies down, it seems the acid has done its dirty work. Well on the pig
at least

200

00:18:12,380 --> 00:18:15,420

So it looks like a large portion of it is dissolved

201

00:18:15,740 --> 00:18:22,220

But there's a little bit left and I have to say it looks about like what fell through the floor in
breaking bad

202

00:18:22,460 --> 00:18:27,260

Yeah, except that the acid's not doing anything to the bathtub. Yeah, not a thing

203

00:18:27,420 --> 00:18:32,460

It's not making its way through the tub. That's what it looks like safe in video village

204

00:18:32,780 --> 00:18:36,780

But now that the reaction has run its course the guys go in for a closer look

205

00:18:37,740 --> 00:18:42,380

Ah, that's just wrong. It smells terrible. Oh

206

00:18:43,820 --> 00:18:50,140

That's one of the ugliest things I've ever seen. It really is one of the ugliest things he's ever seen. Think about that for a second

207

00:18:50,940 --> 00:18:56,620

It's clear the acid ate through most of the pig. But what about the bathtub and the bathroom floor?

208

00:18:57,340 --> 00:19:01,420

Well, the floor is totally intact. No tubs coming through there. Yep

209

00:19:01,820 --> 00:19:07,580

So as the plug is pulled and the experts drain the remains it seems this myth is sunk

210

00:19:08,700 --> 00:19:11,740

What do you think three times the amount of acid we saw in breaking bad?

211

00:19:12,220 --> 00:19:16,380

Still didn't burn through the tub. Well, you know, there's a lot more room in that tub

212

00:19:17,100 --> 00:19:19,100

I think we should talk to vince about it

213

00:19:19,980 --> 00:19:21,980

All right, it's still pretty cool

214

00:19:26,460 --> 00:19:29,740

Carri torian grad are testing this fulminate fling

215

00:19:31,820 --> 00:19:35,340

Ha ha could waltz throw down mercury fulminate

216

00:19:36,380 --> 00:19:39,420

Blow up a room and get out unharmed

217

00:19:41,260 --> 00:19:45,500

Well, the show's creator and star have their own initial analysis

218

00:19:46,140 --> 00:19:51,020

So Carri torian grant managed to find a real life chemist named jesse

219

00:19:51,260 --> 00:19:57,180

Yeah, who works in a trailer and is a genius at making the best illegal chemicals

220

00:19:57,980 --> 00:20:04,700

Wouldn't you say that's uh life imitating heart? Yeah a little bit, you know, they got the big boom, right? But uh, their

221

00:20:05,260 --> 00:20:10,380

Jesse said it's really difficult to make mercury fulminate into a crystal like

222

00:20:10,940 --> 00:20:16,460

Chunk, I know that stuff look like like like dirty play dough or something. Yeah, it doesn't look as cool as hours

223

00:20:17,020 --> 00:20:23,660

So maybe does that mean that their jesse isn't as badass as our jesse? Yes, that's exactly what it means

224

00:20:27,180 --> 00:20:32,780

Badass or not it's time to get this throw on the road. So the myth busters have cooked up a plan

225

00:20:33,580 --> 00:20:37,100

Now that we know what the mercury fulminate can do a couple of builds need to happen

226

00:20:37,100 --> 00:20:43,100

So we can test the myth first of all grant needs to build a throwing robot because this stuff is way too dangerous to throw ourselves

227

00:20:43,580 --> 00:20:46,860

Secondly, we need to set the scene so tori and I we're going to build a room

228

00:20:48,460 --> 00:20:53,420

First things first it needs to withstand a large blast. So that's going to mean a steel

229

00:20:54,060 --> 00:20:59,180

Power is going to be provided by an air cylinder that's going to that pulls down on a roller chain

230

00:20:59,740 --> 00:21:05,020

That rotates the arm the mercury fulminate. Hopefully hit the ground and then explode

231

00:21:06,940 --> 00:21:09,900

First up is the explosion proof heavy metal frame

232

00:21:12,380 --> 00:21:17,580

And with the axle in place the robot gets its all important throwing arm. This is the best part

233

00:21:18,060 --> 00:21:24,780

So once the arm goes on this hunk of metal starts to look like something it's like I'm giving it

life

234

00:21:35,900 --> 00:21:40,140

So my throwing robot which I call throw box for short is done now

235

00:21:40,140 --> 00:21:44,860

It's time to test it for the first time right now in three two one

236

00:21:45,100 --> 00:21:47,100

Yes

237

00:21:50,380 --> 00:21:52,300

It's pretty good

238

00:21:52,300 --> 00:21:55,500

So now it's back to the quarry for the breaking bad house

239

00:21:56,300 --> 00:21:58,300

That's great the myth busters built

240

00:22:00,860 --> 00:22:02,860

We're building a house

241

00:22:03,660 --> 00:22:05,660

The walls and floors go up

242

00:22:06,860 --> 00:22:08,860

Grant positions the throw button

243

00:22:09,180 --> 00:22:11,660

Careful of the paneling don't scratch the paneling

244

00:22:12,620 --> 00:22:14,620

The roof is raised

245

00:22:16,860 --> 00:22:20,540

The room is glazed. All right these windows are a little dirty, but we don't care

246

00:22:22,860 --> 00:22:26,620

And then the final touch is to add the breaking bad guys

247

00:22:29,420 --> 00:22:34,140

This is gonna be Walter can't just be a robot. He's a little humanity

248

00:22:36,060 --> 00:22:41,260

For this experiment we're testing two things both lethality and injury now for that we have oscico burst discs

249

00:22:41,340 --> 00:22:46,300

We're gonna put both injury at 13 psi and death at 75 psi at

250

00:22:47,020 --> 00:22:47,980

Tuko

251

00:22:47,980 --> 00:22:51,180

Walter white and his henchmen. We'll see who lives who dies

252

00:22:52,700 --> 00:22:57,180

And with that the breaking bad tableau is ready to uh break

253

00:22:59,820 --> 00:23:04,540

Next suddenly i'm very uneasy can a fistful of crystal make a room

254

00:23:11,260 --> 00:23:13,260

In the

255

00:23:41,420 --> 00:23:43,420

Uh

256

00:23:43,740 --> 00:23:45,740

Put your pants back on we got work to do

257

00:23:48,140 --> 00:23:51,900

All right, welcome to the bad guy hideout now. This is how we're gonna test this myth

258

00:23:51,980 --> 00:23:57,180

We're gonna take 50 grams of mercury fulminate stick it in waltz hand aka

259

00:23:57,340 --> 00:24:00,940

Grant's throwing machine throw it on the ground and see if it explodes now

260

00:24:00,940 --> 00:24:07,180

We've recreated the office just like in the tv show. It's built to code complete with windows now tuko's over here

261

00:24:07,180 --> 00:24:12,220

He's sitting at his desk. He's counting his money now his henchmen. They have waltz surrounded

262

00:24:12,460 --> 00:24:17,180

So what we're gonna do is load up the throwing machine throw the mercury fulminate on the ground now if it explodes

263

00:24:17,260 --> 00:24:21,820

We have burst discs around the room to see if these guys would survive the blast

264

00:24:21,900 --> 00:24:25,660

And we're gonna be able to see if the windows blow out just like in a tv show

265

00:24:26,220 --> 00:24:28,220

Hello gentlemen

266

00:24:28,780 --> 00:24:30,780

So is that the real stuff?

267

00:24:34,300 --> 00:24:37,020

All right, suddenly i'm very uneasy

268

00:24:37,340 --> 00:24:45,180

With the unpredictable payload in place grant very carefully charges the throwbot. Okay, system's charged. I'm pulling the pin

269

00:24:48,860 --> 00:24:57,820

Okay, we're hot and remember to confirm the myth the throw must trigger a blast which flows out the windows and leaves waltz unharmed

270

00:24:58,780 --> 00:25:01,420

So now it's the countdown to the throwdown

271

00:25:02,380 --> 00:25:10,540

This is walter white with 50 grams of mercury fulminate in three two one

272

00:25:14,300 --> 00:25:19,980

Nothing happened. There was a second where I was hoping it was gonna work, but it obviously didn't it's not that sensitive

273

00:25:20,780 --> 00:25:25,820

It seems mercury fulminate may be volatile, but waltz powerful pitch couldn't detonate it

274

00:25:26,060 --> 00:25:28,060

Oh

275

00:25:28,300 --> 00:25:32,380

Which means somebody has some explaining to do so, uh

276

00:25:33,420 --> 00:25:35,820

I know I know you're my boss and everything, but

277

00:25:36,620 --> 00:25:38,620

It looks like you were

278

00:25:39,340 --> 00:25:41,020

You were kind of

279

00:25:41,020 --> 00:25:42,220

wrong

280

00:25:42,220 --> 00:25:44,220

with this one, huh

281

00:25:44,940 --> 00:25:46,940

Yeah, but uh

282

00:25:47,180 --> 00:25:51,100

What carry tory and grant don't know is that

283

00:25:51,900 --> 00:25:55,740

Up here in my mind's eye, you know in that scene what I think happened is that uh,

284

00:25:56,140 --> 00:26:00,780

Walt mixed in with his mercury fulminate a little silver fulminate. Oh

285

00:26:02,140 --> 00:26:04,780

What's that? It's uh stuff they put in these things

286

00:26:07,180 --> 00:26:13,820

Wow, um, I love that you just have that with you, uh, but that wasn't in the show so, uh

287

00:26:14,940 --> 00:26:17,900

Well, you know sometimes you get rid of in the lights

288

00:26:18,620 --> 00:26:23,100

What is it? Okay, so if we read between those lines fulminated mercury

289

00:26:25,180 --> 00:26:31,420

A little tweak of chemistry what vince is saying is that waltz crystal of chaos would definitely detonate

290

00:26:31,660 --> 00:26:36,460

So back at base camp the guys are priming their payload courtesy of a blasting cap

291

00:26:36,860 --> 00:26:39,820

Now everything else about our experiment is exactly the same

292

00:26:40,140 --> 00:26:43,660

The bad guys are in the same places the burst discs are in the same positions

293

00:26:43,900 --> 00:26:47,740

And the mercury fulminate is being set off from where it would have hit on the floor

294

00:26:48,220 --> 00:26:52,060

We're gonna fire this off at the blasting cap and see if we blow out any windows

295

00:26:52,300 --> 00:26:56,460

And how everybody in the room fares this time they'll certainly get a kaboom

296

00:26:56,700 --> 00:27:02,220

But will 50 grams of fulminate still blow out the windows and leave waltz unharmed

297

00:27:02,940 --> 00:27:09,500

Okay, this is 50 grams of mercury fulminate and a blasting cap just to see what it does in three two one

298

00:27:13,900 --> 00:27:16,940

That was a good blast, but it definitely didn't blow out the windows

299

00:27:18,540 --> 00:27:20,220

Yeah, you know what it's busted

300

00:27:20,220 --> 00:27:25,100

We couldn't throw it down and set off the mercury fulminate and with the same amount as in the show

301

00:27:25,580 --> 00:27:28,220

It didn't blow out any windows. It didn't blow at anything

302

00:27:29,100 --> 00:27:32,620

It's no to the throw and no to blowing out the windows

303

00:27:33,900 --> 00:27:36,380

But did waltz and the bad guys survive?

304

00:27:37,580 --> 00:27:41,420

Okay, now that the room's been properly ventilated there's no danger or fumes

305

00:27:41,500 --> 00:27:46,460

But everything's covered in a fine mercury dust, so i'm not going to touch anything as I investigate the room

306

00:27:46,940 --> 00:27:50,220

I can see right here at first henchmen the injury disc is burst

307

00:27:51,180 --> 00:27:56,940

Also injury disc is burst right here at walter. That means that everybody in the room is injured

308

00:27:57,420 --> 00:27:58,220

probably

309

00:27:58,220 --> 00:28:05,580

Exphyxiating from mercury fumes because the windows did not break. It may be busted, but the throw's not over yet

310

00:28:06,380 --> 00:28:11,900

The next chemistry question is what will it take to recreate the small screen scene?

311

00:28:16,380 --> 00:28:21,340

Please don't try what you're about to see at home the substance that we are working with is extremely dangerous

312

00:28:21,500 --> 00:28:23,500

And we have experts to keep us safe

313

00:28:28,220 --> 00:28:32,060

So far in the breaking bat special we've seen a pig disappear

314

00:28:32,460 --> 00:28:37,100

But we haven't seen a bathtub go bye-bye. That's one of the ugliest things i've ever seen

315

00:28:37,660 --> 00:28:39,900

And it's time to break some bad news

316

00:28:41,420 --> 00:28:46,140

Hey, hi, can you see boys? Um, well while we've been out uh shooting. Oh, you know what?

317

00:28:46,220 --> 00:28:50,140

We actually just shot this crazy scene where uh walt finally realizes that

318

00:28:51,900 --> 00:28:55,980

Hey, hey, it's me. Oh, right. Anyway, so what have you guys found out?

319

00:28:56,620 --> 00:28:59,500

Well, I hate to break it to you, but the myth is busted

320

00:29:00,220 --> 00:29:00,860

No

321

00:29:00,860 --> 00:29:04,700

Yeah, it's totally busted and we make two changes to make sure this could work

322

00:29:05,020 --> 00:29:06,700

One we used a special sauce acid

323

00:29:06,700 --> 00:29:12,780

That's a lot more powerful than the hf and second we use more than double the amount that jesse uses in the clip

324

00:29:12,940 --> 00:29:17,580

What do you mean more than double? Well in the clip you only see jesse pour two one gallon jugs of acid into the tub

325

00:29:17,660 --> 00:29:22,460

We used almost six and it still didn't work. Well, maybe you saw him pour two gallons

326

00:29:22,460 --> 00:29:24,460

But in my mind's eye

327

00:29:24,540 --> 00:29:29,740

We always use more we i'm thinking, you know, we covered that body at least, you know

328

00:29:29,900 --> 00:29:35,340

I don't know 30 gallons something like that. Yeah in the trade we've referred to this as artistic

license

329

00:29:35,420 --> 00:29:39,900

Yeah, yeah, well, you know, I don't even think 30 gallons would make it all the way through a cast iron tub

330

00:29:40,220 --> 00:29:42,220

Oh, who said it was cast iron?

331

00:29:42,540 --> 00:29:46,060

Maybe it was made of some other kind of material say like a kind of a

332

00:29:47,580 --> 00:29:49,100

mild cheese

333

00:29:49,100 --> 00:29:53,100

That's it. That's your artistic license. I get it. Okay. Here's how we should do this

334

00:29:53,100 --> 00:29:58,620

We should go back out to the site with 30 gallons of our special sauce acid and a bathtub made of something

335

00:29:58,780 --> 00:30:05,340

Maybe not a cheese but of something that can be acted upon by our acid based on what we find out back at the lab

336

00:30:05,660 --> 00:30:09,260

Exactly sounds sounds like a plan. We'll keep you posted

337

00:30:10,780 --> 00:30:14,380

So we got caught making some assumptions. We assumed it was a cast iron tub

338

00:30:14,620 --> 00:30:19,420

Everyone knows what happens when you make an assumption you make an asset of you and umpchun

339

00:30:20,060 --> 00:30:24,940

Anyway, we've done some research and we have settled upon three of the most common bath materials

340

00:30:25,260 --> 00:30:31,500

Cast iron was ceramic coating steel with enamel coating and perhaps the most common of all bathtub materials

341

00:30:31,900 --> 00:30:38,140

Simple fiberglass now it's time to subject each of these materials to our sulfuric acid with its special sauce

342

00:30:38,540 --> 00:30:40,860

And see which one becomes our bathtub of choice

343

00:30:41,740 --> 00:30:47,820

Yep, and back at the lab for their acid quest. It's time to turn the tables on the tub samples

344

00:30:48,460 --> 00:30:52,460

So, what do we have first cast iron bathtub? All right

345

00:30:55,580 --> 00:30:59,980

Well, there goes the cast iron into the sulfuric acid now we go for the special sauce

346

00:31:03,820 --> 00:31:10,380

Wow, that is really vigorous six gallons of acid couldn't burn through the cast iron tub at ultimatum

347

00:31:10,860 --> 00:31:12,860

It's not making its way through the tub

348

00:31:13,100 --> 00:31:16,700

But more acid per inch of surface area could get a more

349

00:31:17,260 --> 00:31:22,780

Caustic result now this is exactly what I was expecting to see with acid and our materials

350

00:31:23,100 --> 00:31:28,700

However, after a 40 minute soak that stubborn cast iron ain't given up its islands

351

00:31:29,260 --> 00:31:31,740

So next up is enamel coated steel

352

00:31:36,380 --> 00:31:38,380

Wow, that's bubbling up right away too

353

00:31:39,020 --> 00:31:41,580

Bubbling away, but there's a pattern repeating

354

00:31:41,900 --> 00:31:44,940

Well, the enamel coated steel went into the sulfuric acid and again

355

00:31:45,420 --> 00:31:49,420

Not much was going on until the special sauce was poured in and it started to bubble

356

00:31:49,820 --> 00:31:55,020

But we're told that that's just a reaction between the special sauce and the sulfuric acid because now a couple minutes later

357

00:31:55,180 --> 00:32:00,140

He's no bubbling which means it's time for the final contender the fiberglass

358

00:32:02,300 --> 00:32:04,300

Oh man, that's so cool

359

00:32:04,300 --> 00:32:10,220

Fiberglass has been the most reactive substance thus far tested of anything

360

00:32:10,460 --> 00:32:14,700

We put it in here and once the special sauce went in the bubbling was

361

00:32:15,340 --> 00:32:22,860

Incredibly powerful and now it's like four minutes later and it looks like there's a brown stain floating on top of the sulfuric acid

362

00:32:22,940 --> 00:32:25,500

Special sauce. I'm very encouraged about this

363

00:32:27,340 --> 00:32:31,900

Are we done? I think that's it. You know what that means. Have a go full scale. Yeah

364

00:32:34,620 --> 00:32:36,620

Fire

365

00:32:38,140 --> 00:32:41,580

So far we have not seen anything even remotely close to the tv show

366

00:32:41,900 --> 00:32:45,820

No throwing down the mercury fulminate no explosion no glass going everywhere

367

00:32:45,900 --> 00:32:50,940

But now it's my favorite part of the show where we replicate the results. So it's out with the throwbot

368

00:32:53,340 --> 00:32:55,340

And into the rv

369

00:32:55,420 --> 00:32:59,740

Where jesse has been carefully formulating a huge batch of fulminate

370

00:33:00,140 --> 00:33:04,780

So this is the moment of truth for our myth and mercury fulminate

371

00:33:05,260 --> 00:33:09,340

We're making the biggest batch that we can safely in the amount of time that we have

372

00:33:09,820 --> 00:33:15,980

Our chemist jesse has been at this for a little over eight hours and the size of the batch is 250 grams

373

00:33:15,980 --> 00:33:20,620

That's five times what waltz used in the show now since at this point

374

00:33:20,700 --> 00:33:27,580

It's considered a shock sensitive high explosive. It's way too dangerous to simply walk this over and place it

375

00:33:27,900 --> 00:33:33,180

So they're putting it inside of an explosion proof box and carefully driving it over to the site

376

00:33:33,580 --> 00:33:38,140

We're going to set this off and see if this is enough to blow out the windows in our building

377

00:33:39,100 --> 00:33:48,060

Yep inside that box is more than a fist full of crystal and once our mild mannered chemist has painstakingly positioned waltz weapon of choice

378

00:33:49,900 --> 00:33:51,900

It's wired for detonation

379

00:33:51,900 --> 00:33:58,700

But can five times the amount of mercury fulminate finally get the breaking bad room boom

380

00:33:58,940 --> 00:34:05,420

All right, let's blow up this hideout 250 grams mercury fulminate. This is breaking bad boom in three

381

00:34:06,620 --> 00:34:08,220

two

382

00:34:08,220 --> 00:34:09,420

one

383

00:34:09,420 --> 00:34:11,420

go

384

00:34:12,220 --> 00:34:18,140

I think we got the windows. Oh my god. We completely destroyed the hideout

385

00:34:19,580 --> 00:34:21,580

Yeah science

386

00:34:21,980 --> 00:34:26,780

250 grams of mercury fulminate certainly broke that room bad

387

00:34:27,340 --> 00:34:33,420

Wow. Oh my gosh the entire structure is gone. That was awesome

388

00:34:34,380 --> 00:34:37,340

Shall we go see if anybody survives? Why not?

389

00:34:44,460 --> 00:34:50,620

And at the scene of the blast carries instincts were right so all the windows are busted out and

390

00:34:51,420 --> 00:34:53,420

Everyone's dead

391

00:34:53,820 --> 00:34:59,580

That'll be fair a reinforced concrete building like the one in the show might have fared better than our wooden house

392

00:34:59,900 --> 00:35:03,340

But you know what that doesn't change the fact that this is still busted

393

00:35:05,180 --> 00:35:09,980

It's busted for the mythbusters, but for those of you reading between the lines

394

00:35:10,380 --> 00:35:13,020

All right, so um, they're calling it busted, but

395

00:35:14,060 --> 00:35:15,500

What about you?

396

00:35:15,500 --> 00:35:17,260

I say confirmed

397

00:35:17,260 --> 00:35:23,020

Confirmed. Hmm explain. How so well will use that bag of mercury fulminate to threaten everybody in the room

398

00:35:23,020 --> 00:35:26,380

And and he was right that bag would have caused total devastation

399

00:35:26,380 --> 00:35:31,660

In fact if we use that much it'd be the the jesse pinkman show now, right? Yes. Yes. It would have been

400

00:35:32,460 --> 00:35:33,740

Damn it

401

00:35:33,740 --> 00:35:38,700

Damn it. Okay. So but what about it not going off when it was thrown or how you

402

00:35:39,100 --> 00:35:42,060

Need a a lot of it to make a you know big a big boom

403

00:35:42,700 --> 00:35:47,020

Those are just details my friend details details details and

404

00:35:47,820 --> 00:35:49,820

You sound more like wall every day

405

00:35:50,540 --> 00:35:52,380

I'm glad you're noticing

406

00:35:52,380 --> 00:35:57,020

After the break, uh-oh, there's no more half measures going over the side

407

00:35:57,900 --> 00:36:01,980

As the guys go the whole hog for a chemistry catastrophe

408

00:36:11,580 --> 00:36:15,660

Vince I I wanted to tell you I'm a huge fan of the show and I've been wanting to ask this question

409

00:36:15,820 --> 00:36:19,100

See I think of walt is a a flawed genius

410

00:36:19,580 --> 00:36:25,420

Clearly brilliant, but also with serious anger management issues. Yeah, you know and not just anger management

411

00:36:25,420 --> 00:36:30,620

I mean this guy he's intolerant. He's bad tempered, but he's also really really cunning and um

412

00:36:31,180 --> 00:36:34,860

Kind of super methodical right exactly. So my question is

413

00:36:35,740 --> 00:36:39,260

Where did you find inspiration for the character of walt?

414

00:36:42,220 --> 00:36:45,340

Honestly couldn't really tell you it's a mystery

415

00:36:46,620 --> 00:36:48,620

I

416

00:36:49,020 --> 00:36:51,500

Yo, it's breaking bad in the house

417

00:36:52,940 --> 00:36:57,740

According to breaking bad acid plus bathtub plus organic matter

418

00:36:59,900 --> 00:37:01,900

Is our recipe for disaster

419

00:37:02,460 --> 00:37:04,060

But so far

420

00:37:04,060 --> 00:37:05,420

Not so good

421

00:37:05,420 --> 00:37:07,420

God that's nasty

422

00:37:07,580 --> 00:37:10,460

The floor is totally intact. That tub is coming through there

423

00:37:10,540 --> 00:37:15,100

However for the final science of the hams our last help required this to move it

424

00:37:16,380 --> 00:37:20,380

So, we're moving this one. I've decided to reveal to the world my super strength

425

00:37:23,660 --> 00:37:27,100

They're switching tubs and up in the acid anti

426

00:37:27,340 --> 00:37:31,740

This is where we try to show what it would actually take to replicate what we saw in breaking bad

427

00:37:32,540 --> 00:37:36,860

and that involves pouring 24 gallons of almost pure sulfuric acid

428

00:37:37,260 --> 00:37:39,660

over a pig in this fiberglass tub

429

00:37:40,460 --> 00:37:45,340

To that I will add 12 gallons of our special sauce which will come out of this container right here

430

00:37:45,660 --> 00:37:49,900

which I'll deliver with the grater up and over our barrier.

431

00:37:49,900 --> 00:37:52,500

And I'll open the valve and we'll see what happens

432

00:37:52,500 --> 00:37:55,300

when our special sauce gets to work on that pig.

433

00:37:55,300 --> 00:37:59,220

It's a souped up protocol because with six times the acid,

434

00:37:59,220 --> 00:38:01,220

there's six times the risk.

435

00:38:01,220 --> 00:38:04,380

It's not only fully protective, but I look good in it.

436

00:38:04,380 --> 00:38:05,220

Damn good.

437

00:38:06,580 --> 00:38:09,140

So while Adam loads the special sauce,

438

00:38:11,580 --> 00:38:12,620

I've done my part.

439

00:38:13,620 --> 00:38:16,620

Jamie gives the pig its sulfuric soaking.

440

00:38:24,620 --> 00:38:26,620

Okay, Adam, that's the last two.

441

00:38:26,620 --> 00:38:28,620

I'm ready for the special sauce.

442

00:38:28,620 --> 00:38:29,620

Copy that.

443

00:38:29,620 --> 00:38:32,620

Then Adam carefully lowers his corrosive catalyst.

444

00:38:34,140 --> 00:38:35,620

All right, here we go.

445

00:38:35,620 --> 00:38:38,620

And Jamie unleashes a torrent of trouble.

446

00:38:39,620 --> 00:38:41,620

It's really bubbling.

447

00:38:41,620 --> 00:38:44,620

The question now is, will this combo get them

448

00:38:44,620 --> 00:38:47,620

the breaking bad chemistry destiny?

449

00:38:47,620 --> 00:38:50,620

Oh, wow, I can see the smoke from here.

450

00:38:50,620 --> 00:38:53,620

Well, it's off to a very volatile start.

451

00:38:53,620 --> 00:38:54,620

Uh-oh.

452

00:38:54,620 --> 00:38:55,620

It's starting to go up.

453

00:38:55,620 --> 00:38:57,620

We better get out of here.

454

00:38:57,620 --> 00:39:00,620

In fact, the guys don't even make it up the hill

455

00:39:00,620 --> 00:39:03,620

before the entire corral goes up in smoke.

456

00:39:03,620 --> 00:39:04,620

Oh!

457

00:39:04,620 --> 00:39:05,620

Whoa!

458

00:39:05,620 --> 00:39:06,620

It's going over the side.

459

00:39:06,620 --> 00:39:07,620

Dude!

460

00:39:08,620 --> 00:39:10,620

I don't know if looking at remote cameras

461

00:39:10,620 --> 00:39:11,620

is going to help at this point.

462

00:39:11,620 --> 00:39:12,620

No.

463

00:39:12,620 --> 00:39:13,620

Adam's right.

464

00:39:13,620 --> 00:39:16,620

The reaction is so fast and so furious

465

00:39:16,620 --> 00:39:18,620

that even the cameras are in the dark.

466

00:39:18,620 --> 00:39:20,620

Well, I tell you one thing.

467

00:39:20,620 --> 00:39:23,620

I'm glad we decided to pour in the special sauce remotely.

468

00:39:23,620 --> 00:39:25,620

You and I both.

469

00:39:25,620 --> 00:39:26,620

Oh, my goodness.

470

00:39:26,620 --> 00:39:27,620

That is crazy.

471

00:39:27,620 --> 00:39:30,620

That happened so much faster than I thought it would.

472

00:39:30,620 --> 00:39:32,620

I'm glad the wind's blowing now.

473

00:39:32,620 --> 00:39:35,620

Yep, and once the smoke clears,

474

00:39:35,620 --> 00:39:40,620

they have a very grizzly angle on what remains to be seen.

475

00:39:43,620 --> 00:39:44,620

Wow.

476

00:39:44,620 --> 00:39:45,620

There's no pig.

477

00:39:45,620 --> 00:39:48,620

There's a couple of chunks that looks like floating around.

478

00:39:48,620 --> 00:39:49,620

I'm surprised.

479

00:39:49,620 --> 00:39:50,620

I thought the bathtub may have failed,

480

00:39:50,620 --> 00:39:52,620

but it just looks like everything boiled over

481

00:39:52,620 --> 00:39:53,620

and now it's about half full.

482

00:39:53,620 --> 00:39:54,620

Yeah.

483

00:39:54,620 --> 00:39:57,620

Half full of black, satanic sludge.

484

00:39:57,620 --> 00:39:59,620

In five minutes flat,

485

00:39:59,620 --> 00:40:02,620

the acid almost completely dissolved the pig.

486

00:40:02,620 --> 00:40:06,620

But did they finally get the bathroom blowout?

487

00:40:06,620 --> 00:40:08,620

Oh, man.

488

00:40:08,620 --> 00:40:10,620

How does the floor look?

489

00:40:10,620 --> 00:40:12,620

The plywood's been affected,

490

00:40:12,620 --> 00:40:14,620

but it's not been eaten through.

491

00:40:14,620 --> 00:40:16,620

It's just sort of like it's been charred.

492

00:40:16,620 --> 00:40:17,620

And the bathtub?

493

00:40:17,620 --> 00:40:20,620

The bathtub looks like it's been burned some,

494

00:40:20,620 --> 00:40:22,620

but it's completely intact,

495

00:40:22,620 --> 00:40:26,620

and it's holding 20, 25 gallons of stuff in there.

496

00:40:26,620 --> 00:40:27,620

That's amazing.

497

00:40:27,620 --> 00:40:29,620

I've never seen anything like that.

498

00:40:29,620 --> 00:40:32,620

The pig is just like it was never there.

499

00:40:32,620 --> 00:40:35,620

It's turned into some kind of black goop.

500

00:40:35,620 --> 00:40:37,620

What pig?

501

00:40:37,620 --> 00:40:39,620

I don't know anything about no pig.

502

00:40:39,620 --> 00:40:42,620

There's no pig because the chemical reaction

503

00:40:42,620 --> 00:40:45,620

literally broke it down into its elements.

504

00:40:45,620 --> 00:40:49,620

Inside the tub was sulfuric acid and our special sauce,

505

00:40:49,620 --> 00:40:52,620

which let's just say is lots of hydrogen and oxygen.

506

00:40:52,620 --> 00:40:54,620

And then of course there's the pig,

507

00:40:54,620 --> 00:40:56,620

which is made up of mostly hydrocarbons.

508

00:40:56,620 --> 00:41:00,620

And the chemical reaction produced when the acid was exposed to the pig

509

00:41:00,620 --> 00:41:04,620

was so energetic that it released massive amounts of hydrogen and oxygen,

510

00:41:04,620 --> 00:41:06,620

making that huge cloud of water vapor

511

00:41:06,620 --> 00:41:09,620

along with carbon dioxide and hydrogen gas.

512

00:41:09,620 --> 00:41:13,620

And then all that was left when the reaction had run its course

513

00:41:13,620 --> 00:41:15,620

was carbon and sulfur,

514

00:41:15,620 --> 00:41:18,620

leaving that black pool of sludge in the bottom of the tub.

515

00:41:18,620 --> 00:41:20,620

That was spectacular.

516

00:41:20,620 --> 00:41:22,620

The reaction happened much faster than we expected,

517

00:41:22,620 --> 00:41:25,620

but our protocol accommodated for that

518

00:41:25,620 --> 00:41:30,620

and at the peak, this entire 30 foot diameter corral

519

00:41:30,620 --> 00:41:34,620

was just shooting a plume of smoke to the sky.

520

00:41:34,620 --> 00:41:38,620

Any experiment that has a plume of smoke shooting to the sky

521

00:41:38,620 --> 00:41:41,620

is by definition awesome.

522

00:41:41,620 --> 00:41:43,620

By definition awesome.

523

00:41:43,620 --> 00:41:47,620

But this bathtub breach is all washed up.

524

00:41:47,620 --> 00:41:49,620

Well that was really cool.

525

00:41:49,620 --> 00:41:52,620

Very cool. Busted, but totally cool.

526

00:41:52,620 --> 00:41:54,620

Let's go tell the Incinera.

527

00:41:55,620 --> 00:41:57,620

Alright guys, the results are in.

528

00:41:57,620 --> 00:42:02,620

And I'm sorry to say, even though our special acid with the fiberglass tub

529

00:42:02,620 --> 00:42:06,620

was an improvement, it still failed to replicate what we see in the clip.

530

00:42:06,620 --> 00:42:12,620

And because it didn't work with HF, this myth is totally and doubly busted.

531

00:42:12,620 --> 00:42:14,620

Yep, it's busted.

532

00:42:14,620 --> 00:42:17,620

Wait, so Jesse won, Walt, nil.

533

00:42:17,620 --> 00:42:18,620

Sure.

534

00:42:18,620 --> 00:42:19,620

Yeah.

535

00:42:20,620 --> 00:42:22,620

Shoulda used the cheese.

536

00:42:24,620 --> 00:42:25,620

Yeah.