

M.E.K. Substitute

by John DeRosia

Company: MEK

Price: \$26.00

Website: M.E.K.

First of all – I’m not a chemist – just a model builder. But I make educated decisions based on lots of research from many sources. Our hobby of course involves lots of glues and paints and a lot of plastic (styrene etc). So let me just give you my little slice of the pie about my glue of choice.

I use MEK Substitute and have been for well over 2 years. Thank you Sheppard Paine (famous model builder and author) for first getting me on this track. In his books, Sheppard used MEK (Butanone, also known as Methyl Ethyl Ketone) . This chemical was found to be a really harsh glue and health hazard. So- per EPA and 1001 agencies, the MEK was replaced with MEK Substitute. (Geez – now there’s a catchy name!!)

I used to use Tenax and other liquid glues. But for one bottle of glue going for upwards of around \$4.00 – it adds up fast for builders like me. For some reason that I can’t recall-



the ‘marketing’ of this was it was new space age glue. Then I kept thinking of the Space Shuttle coming back to earth and sitting on the runway for hours while the poisonous gasses were bleeding of the space craft.... what the?????...space age sounds dangerous now!

When I asked a few people what they knew about this MEK stuff- they laid their hands on me and started praying. “Do not use this glue brother for you will disintegrate the first time you use it”.....well- it sounded something like that. But it got me to wondering. What is going on with MEK and Tenax and other liquid glues anyway????

I thought- well let me look up some specs on Tenax (You can also find out about whatever glue you actually use). I finally found some specs- but you have to dig with a good shovel. The individual bottle does not begin to relay some of the information for the specs on Tenax..... I was ‘drinking’ bottles of Tenax (you know what I mean!) and the wallet was taking a big hit every time I bought a bottle.

The government requires all chemicals in use to have something called a Material Safety Data Sheet. It may be nicknamed by some different names, but it has to list out everything you ever wanted to know about a chemical and then some. Part of these Data sheets I think is if some alien

from another planet invades and needs a drink- we can warn them what is good and what is bad. Of course Fire Departments need to know etc....

Here is a small sampling of the Data listed for Tenax:

Tenax:

SECTION VI - Health Hazard Data

Route of Entry: Skin YES
Route of Entry: Ingestion YES
Route of Entry: Inhalation YES
Health Hazards - Acute and Chronic DAMAGE TO LIVER, KIDNEYS, LUNGS, BLOOD, CNS
Carcinogenity: NTP NO
Carcinogenity: IARC YES
Carcinogenity: OSHA NO

Explanation of Carcinogenity
CONTAINS A SUBSTANCE THAT IS LISTED AS AN IARC PROBABLE HUMAN CARCINOGEN

Symptoms of Overexposure
INHALE: HEADACHE, NAUSEA, VOMITING DIZZINESS, NARCOSIS, WEAKNESS, FATIGUE, IRRITATION OF RESPIRATORY TRACT, CNS DEPRESSION, METHGLOBULIN FORMATION IN BLOOD, PULMONARY EDEMA, UNCONSCIOUSNESS, MAY BE FATAL.

SKIN: IRRITATION, DERMATITIS

EYE: IRRITATION, TEMPORARY CORNEAL DAMAGE. INGEST: SAME AS INHALE SYMPTOMS

Medical Cond. Aggravated by Exposure CARDIOVASCULAR, HEART, LIVER/KIDNEY, CNS DISORDERS, HEAVY DRINKERS/SMOKERS

Emergency/First Aid Procedures
INGEST: CALL PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. INHALE: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. GIVE O2 IF BREATHING DIFFICULT. SKIN: IMMEDIATE. FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MIN. WHILE REMOVING CONTAMINATED CLOTHING & SHOES. EYE: IMMEDIATE. FLUSH WITH WATER FOR AT LEAST 15 MIN

Specific Hazard and Precaution
DAMAGE TO LIVER, KIDNEYS, LUNGS, BLOOD, CNS. MAY BE FATAL. MAY CAUSE TEMPORARY CORNEAL DAMAGE

Okay- you've glanced at the above – or if football wasn't on- you may have actually read the entire thing. Scary isn't it? Guess what – similar words appear for MEK Substitute, a lot of glues and paints we use etc...you don't believe me?- I dare you to actually read the paint label on a spray can sometime.....let alone the Data Sheet.

Should we now all switch to kid safe glues – like Elmer's for instance? Not me! Pick up a model the wrong way with the water glue- it will fall apart for sure.

Because I practice safe modeling (lots of air flow, not in a closed room etc) – I now have a choice-mostly wallet wise. The Data sheets are all so similar in warnings. But here is what I did.

I went to the local hardware store (home improvement etc) and bought a GALLON of MEK Substitute for \$26.00. (Note- it also comes in cheaper Quarts!!) I did this in the summer of 2012. I'm sure it has gone up since then- but what hasn't?

I also had kept about 12 empty bottles of the Tenax – why?.... who knows. To get my \$4.00 worth maybe?...har har har. But good thing I did. I took those empty bottles and filled them all with MEK Substitute- easier to handle than the gallon container. I also have an old Testors glue bottle with a brush

in it I use the Tenax bottles to refill it with. To date (since 2012), I have refilled those bottle about 3-4 times since. And you know what? I still have at least ½ gallon left of the MEK Substitute.

How does the glue work? Fantastic, awesome, superb, great and a few other generic words that escape me at the moment. I have used the glue on several different types of plastic and it bonds them well. ABS is one it does not seem to work on as well. But then one kind of glue does not work for all things in the universe. Dig /read enough and you will also find MEK is in a lot of model based glues.

Let me end up with just a little modern math for you (oh oh- I said that 4 letter scary word, 'math'). Don't worry – it's simple.

1 bottle of Tenax (1 Ounce) = \$4.00 / bottle

(I'm using this rounded off dollar figure for this example- your glue may vary for the bottle price)

1 Gallon = 128 Ounces

So if I were to buy 128 bottles of 1 ounces glue at \$4.00 = \$512.00 Wow!!!!

The gallon of MEK Substitute at \$26.00 means 128 refills of my 1 ounce bottle = \$.20 each. Yes!...Twenty (20) cents per bottle.

So there you have it. \$512.00 or \$26.00?? That is the question.

Make a smart decision, check up on data for your glue you use, and keep having a world of fun and very safe model building!!!!