

CAMEO of EXERCISES

Find the following in the Chemical Information Database:

<i>Common Name</i>	<i>ERPG/ IDLH/TLV/TEEL</i>	<i>Health Hazards</i>
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CAS # 302-01-2 _____

DOT Label is “Flammable Solid” AND CAS # begins with “76”

ALOHA EXERCISES

Use ALOHA to model a direct release of 150 pounds of HYDRAZINE, ANHYDROUS.
Weather conditions are:

Wind Speed:	7 mph
Wind Direction:	SSE
Cloud Cover:	3
Temperature:	75 F
Inversion:	no
Relative Humidity:	50%

Are you experiencing any problems creating a footprint? Does the Chemical Library information displayed by ALOHA agree with the RIDS information?

What happens if you select one of the HYDRAZINE, AQUEOUS SOLUTION entries from the RIDS Library? Does ALOHA “change” to reflect a hydrazine solution? Does the ALOHA Hydrazine information agree with the RIDS aqueous hydrazine information?

Now, model a 35% Hydrazine solution at the 3 different TEEL levels. Would you expect the ALOHA plumes to be overstated or understated? Why?

MARPLOT EXERCISES

Create and print a MARPLOT map displaying the 3 ALOHA plumes for HYDRAZINE, 35% SOLUTION from the above scenario.

Use your MARPLOT county map for this exercise.

- 1) Locate a spot for your fictitious release to occur.
- 2) Use the “Sharing” menu to display the ALOHA TEEL-1 plume.
- 3) Go to the “List” menu.
- 4) Create a new map layer titled “HYDRAZINE RELEASE”
- 5) Select the “Polygon” tool from the left toolbar
- 6) Use your mouse to “draw” a copy of the ALOHA plume area.
- 7) Name the “object” “HYDRAZINE with TEEL = 0.1 ppm”
- 8) Make the object color “PINK” and select a “Fill Pattern”
- 9) Select “OK”. Is your plume displayed correctly on the map?
- 10) Repeat steps 2 – 9 with these changes:
 - a. Make a new ALOHA plume for LOC = TEEL-2
 - b. Object name is “HYDRAZINE with TEEL = 0.8 ppm”
 - c. Make the color BLUE and the fill pattern different
- 11) Repeat steps 2 – 9 with these changes:
 - a. Make a new ALOHA plume for LOC = TEEL-3
 - b. Object name is “HYDRAZINE with TEEL = 10 ppm”
 - c. Make the color RED and the fill pattern different
- 12) Print the map.
- 13) Save it as a bitmap file to your desktop (use the “File” menu). Make sure to give it a name!
- 14) Minimize all screens until you can see your desktop. Use a “photo editor” program to open the bitmap you just saved. You can now “edit” the picture using the photo editor functions. Edit the photo and print it.
- 15) You should now be able to e-mail the picture. If you can, e-mail it to someone you know or someone in your office, then print it again.
- 16) You may also “Export” the picture to other MARPLOT users as a “.mie” file. The other MARPLOT users would “Import” the .mie file, and the picture will appear EXACTLY as it does on your computer.

Are you satisfied with your printed maps? You can go back to MARPLOT and select each HYDRAZINE polygon and change the Color, Fill Pattern, etc. by using the “Object-Object Settings” menu.

LandView 5 EXERCISES

Use your LandView 5 CD-ROM to produce a population estimate for each HYDRAZINE plume.

- 1) use a MARPLOT Search function
 - a. select a plume,
 - b. do a search in MARPLOT for “things that are inside of or touched by” the “currently selected object” in the “Census Block Points” layer
 - c. MARPLOT will give you a list of Census Block Points, you will select the “Show All On Map” button
 - d. You should then see a group of the block points with each surrounded by the red squares indicating they are “selected”
 - e. After that, go to the “Sharing” menu, select “LandView” then “Get Info” and you should then see a page (in LandView) for one of the block points.
 - f. Select the “Summarize” button to see the numbers for all the block points added up.

ANSWERS

CAMEO answers.

CAS # 302-01-2: **HYDRAZINE....but there are several % solutions to choose from**

DOT Label is “Flammable Solid” AND CAS # begins with “76”:
CAMPHOR

ALOHA answers

Are you experiencing any problems creating a footprint? Does the Chemical Library information displayed by ALOHA agree with the RIDS information?

No problem creating the ALOHA footprint. RIDS and ALOHA agree IF AND ONLY IF you are using RIDS HYDRAZINE, ANHYDROUS! At least in the state of Oklahoma, the most commonly-reported Hydrazine is 50% solution.

What happens if you select one of the HYDRAZINE, AQUEOUS SOLUTION..... Entries from the RIDS Library? Does ALOHA “change” to reflect a hydrazine solution? Does the ALOHA Hydrazine information agree with the RIDS aqueous hydrazine information?

Did you notice the RIDS for Hydrazine solutions have different RIDS information and Properties values? ALOHA is set to model for Anhydrous Hydrazine. This is also true for many other chemicals listed in the ALOHA library. For 7 specific “solutions”, you may use the NOAA Evaporation Calculator along with ALOHA to model for various % strengths of the chemical.

Now, model a 35% Hydrazine solution at the 3 different TEEL levels. Would you expect the ALOHA plumes to be overstated or understated? Why?

You can't model for 35% Hydrazine Solution with ALOHA. The resulting ALOHA plumes will likely be overstated. Compare the following:

Hydrazine Direct Source 55 gallons

Hydrazine Puddle Source 400 square feet; 55 gallons

Of course, you CAN change the amount of Hydrazine released to 35% of 55 gallons and use that figure for the release amount. This doesn't change the differences between the Direct Source and Puddle Source plumes, and it is inaccurate for a number of reasons.