CAMEOfm EXERCISES

Find the following in the Chemical Information Database:

Common Name	*ERPG/ IDLH/TLV/TEEL*	*Health Hazards*

CAS # 75-15-0_____

Is a CERCLA Chemical, and CAA 112® Chemical, CAS # begins with "106", and IDLH is less than 100 ppm.

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ALOHA EXERCISES

Use ALOHA to model a direct release of 150 pounds of CARBON DISULFIDE.
Weather conditions are:

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

What is the Maximum Plume Distance when the LOC =

IDLH	_____
ERPG-1	_____
ERPG-2	_____
LEL	_____
10% LEL	_____

What is the difference between measuring toxicity (ERPG) versus flammability (LEL)?
How do you interpret the difference between ERPG and LEL plume distance?

MARPLOT EXERCISES

Create and print a MARPLOT map displaying the 5 ALOHA plumes for CARBON DISULFIDE

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 IDLH plume.
3) Go to the "List" menu.
4) Create a new map layer titled "CARBON DISULFIDE 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" "CARBON DISULFIDE with IDLH = 500 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 = ERPG-1
    b. Object name is "CARBON DISULFIDE with ERPG-1 = 1 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 = ERPG-2
    b. Object name is "CARBON DISULFIDE with ERPG-2 = 50 ppm"
    c. Make the color RED and the fill pattern different
12) Repeat steps 2 – 9 with these changes:
    a. Make a new ALOHA plume for LOC = LEL
    b. Object name is "CARBON DISULFIDE with LEL = 10,000 ppm"
    c. Make the color GREEN and the fill pattern different
13) Repeat steps 2 – 9 with these changes:
    a. Make a new ALOHA plume for LOC = 10% LEL
    b. Object name is "CARBON DISULFIDE with 10% LEL = 1,000 ppm"
    c. Make the color YELLOW and the fill pattern different
14) Save it as a bitmap file to your desktop (use the "File" menu). Make sure to give it a name!
15) 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.
16) 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.
17) 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.

LandView 5 EXERCISES

Use your LandView 5 CD-ROM to produce a population estimate for the IDLH and ERPG CARBON DISULFIDE plumes.

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: **CARBON DISULFIDE**

NFPA FIRE = 4
NFPA HEALTH = 3
NFPA REACTIVE = 0

IDLH = 500 ppm
ERPG-1 = 1 ppm
ERPG-2 = 50 ppm

Is a CERCLA Chemical, and CAA 112® Chemical, CAS # begins with "106", and IDLH is less than 100 ppm;

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NFPA FIRE = 3
NFPA HEALTH = 4
NFPA REACTIVE = 2

IDLH = 75 ppm
ERPG-1 = 2 ppm
ERPG-2 = 20 ppm

ALOHA answers.

What is the Maximum Plume Distance when the LOC =

IDLH	500 ppm	171 yards
ERPG-1	1 ppm	1.6 miles
ERPG-2	50 ppm	578 yards
LEL	10000 ppm	26 yards
10% LEL	1000 ppm	112 yards

Toxicity measures such as IDLH and ERPG represent areas where airborne concentrations of the chemical could present a danger to human health. Flammability measures such as LEL measure the area where product ignition could occur if an ignition source is present.

ALOHA plume distance indicates that harmful toxic concentrations of Carbon Disulfide extend well beyond the area where product ignition could occur..