

CAMEOfm EXERCISES

CAMEOfm—CHEMICAL LIBRARY

1. Open the Chemical Library
2. Find the following chemical information:

Chemical Name : ISOPROPANOL

CAS # : _____

UN/NA# : _____

NFPA RATINGS:

FIRE : _____

HEALTH : _____

REACTIVE : _____

SPECIAL : _____

IDLH : _____

ERPG -2 : _____

TEEL-2 : _____

OTHER INFO: _____

Chemical Name : _____

CAS # : starts with "56"

UN/NA# : 2783

NFPA RATINGS:

FIRE : _____

HEALTH : _____

REACTIVE : _____

SPECIAL : _____

IDLH : _____

ERPG -2 : _____

TEEL-2 : _____

OTHER INFO: _____

ALOHA EXERCISES

A pickup truck carrying several drums and bags is placarded 1131 and is involved in a traffic accident on a local state highway. You want to examine the potential risks of a road accident resulting in a spill of two 55-gallon drums of the product. Can you use ALOHA for this purpose? How? What will you use for your LOC? Can you use RMP COMP? What are the results?

ANSWERS

CAMEO answers

Chemical Name : ISOPROPANOL
CAS # : 63-67-0
UN/NA# : 1219
NFPA RATINGS:
FIRE : 3
HEALTH : 1
REACTIVE : 0
SPECIAL : BLANK
IDLH : 2000 ppm; notice this is 10% of LEL
ERPG -2 : blank
TEEL-2 : 400 ppm; much lower than IDLH!
OTHER INFO: high concentrations may be
anesthetic (Health Hazards); dike runoff (Non-Fire Response); etc

Chemical Name : Probably PARATHION, could be
ETHION or COUMAPHOS; all are pesticides
CAS # : starts with "56"
UN/NA# : 2783
NFPA RATINGS: **none given!**
FIRE : _____
HEALTH : _____
REACTIVE : _____
SPECIAL : _____
IDLH : only is parathion 10 mg/m³; **not ppm**
ERPG -2 : none available
TEEL-2 : 2 ppm

Note: TLV-TWA is available for most of these substances.

Note: while your “found set” is active, you may use the “back and forward” arrow buttons to scroll between the records and easily view the RIDS and Chem ID for the 3 basic chemicals.

ALOHA answers

I've seen pickup trucks driving around Oklahoma with this placard, which is Carbon Disulfide. It is highly flammable, and extremely toxic with an IDLH of 500 ppm and an ERPG-2 of 50 ppm.

Carbon Disulfide will model in both ALOHA and RMP-COMP. The choices for ALOHA LOC vary widely, from LEL at 10,000 ppm to ERPG-1 at 1 ppm. Your ALOHA Plume distance will be quite different depending on the LOC values you utilize.

To use RMP-COMP, you must convert the 110 gallons (2-55 gallon drums) to pounds. Fortunately, the weight value (10.5 lb/gal) for Carbon Disulfide is given in the General Description section of CAMEO RIDS.

Multiply $10.5 \times 110 = 1155$ pounds

I used an “ambient” temperature value of 85 degrees F; spilled in a “rural” area. RMP-COMP distance estimation was 0.9 miles.

My ALOHA Plume at IDLH = 500 ppm was 456 yards; your answer will vary depending on weather conditions you use.

ALOHA Plume at ERPG-2 = 50 ppm was 1564 yards.