

# Exceptional exposure within SEG

Identify determinant(s) of exceptional exposure:

- One or more worker(s)
- One or several periods (Shifts, seasons)
- One or more specific task(s)

# Exceptional exposure within SEG



two subgroups:

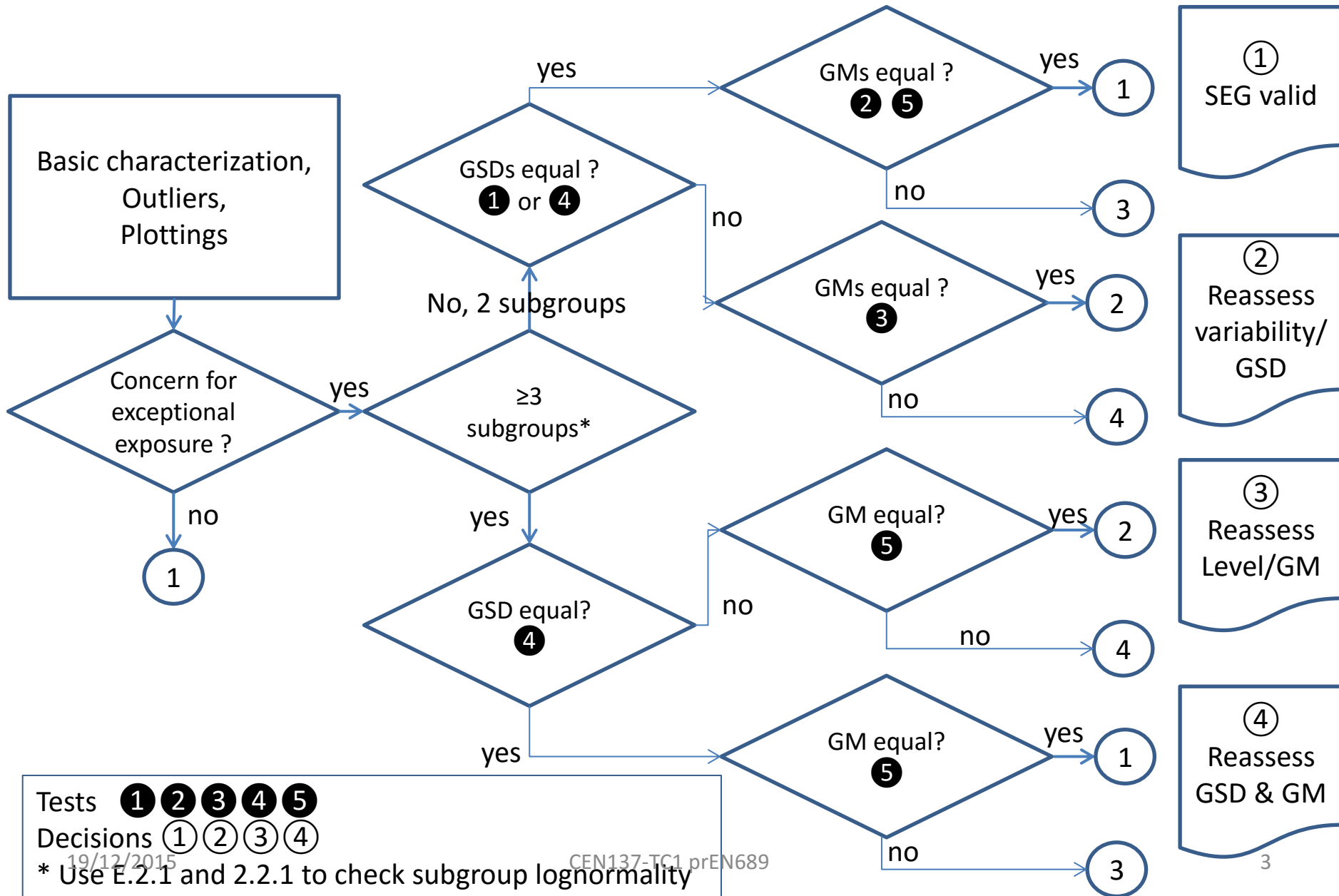
- establish differences in exposure location (GM) and dispersion (GSD) in one go: Student t-test (HYGINIST)

Multiple subgroups:

- Two step approach to establish differences
  - exposure location (GM), ANOVA (BW\_Stat)
  - dispersion (GSD), Levene (BW\_stat)

# Establish exceptional exposure

decision



# Lower limit of the GSD

## Leidel & Busch NIOSH 77-1173 p 124

above represent relatively high variation. Hald (M-22) states that the shape of lognormal distributions with low variations, such as those with  $GSD$ 's less than about 1.4, roughly approximate normal distribution shapes. For this range of  $GSD$ 's, there is a rough equivalence between the quantity  $(GSD - 1)$  and the  $CV$ , as follows:

<u><math>GSD</math></u>	<u><math>(GSD - 1)</math></u>	<u><math>CV</math></u>
1.05	0.05	0.049
1.10	0.10	0.096
1.20	0.20	0.18
1.30	0.30	0.27
1.40	0.40	0.35

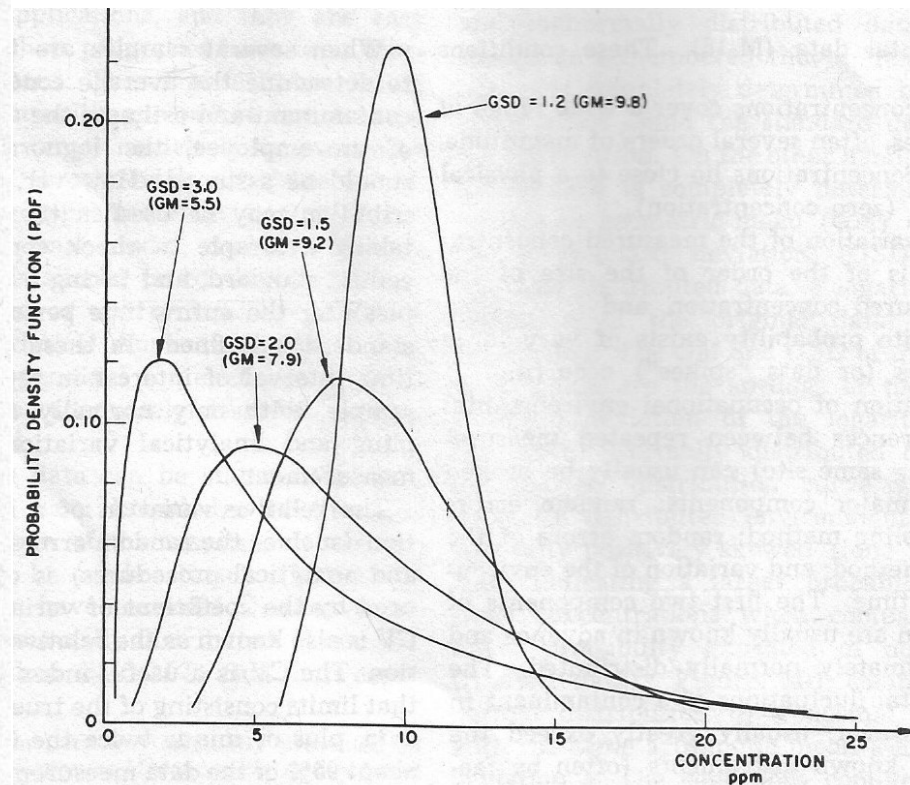


Figure M-2. Lognormal distributions for arithmetic mean concentration of 10 ppm.

# Exceptional exposure and lognormal goodness-of-fit.

Leidel & Busch NIOSH 77-1173 p 102

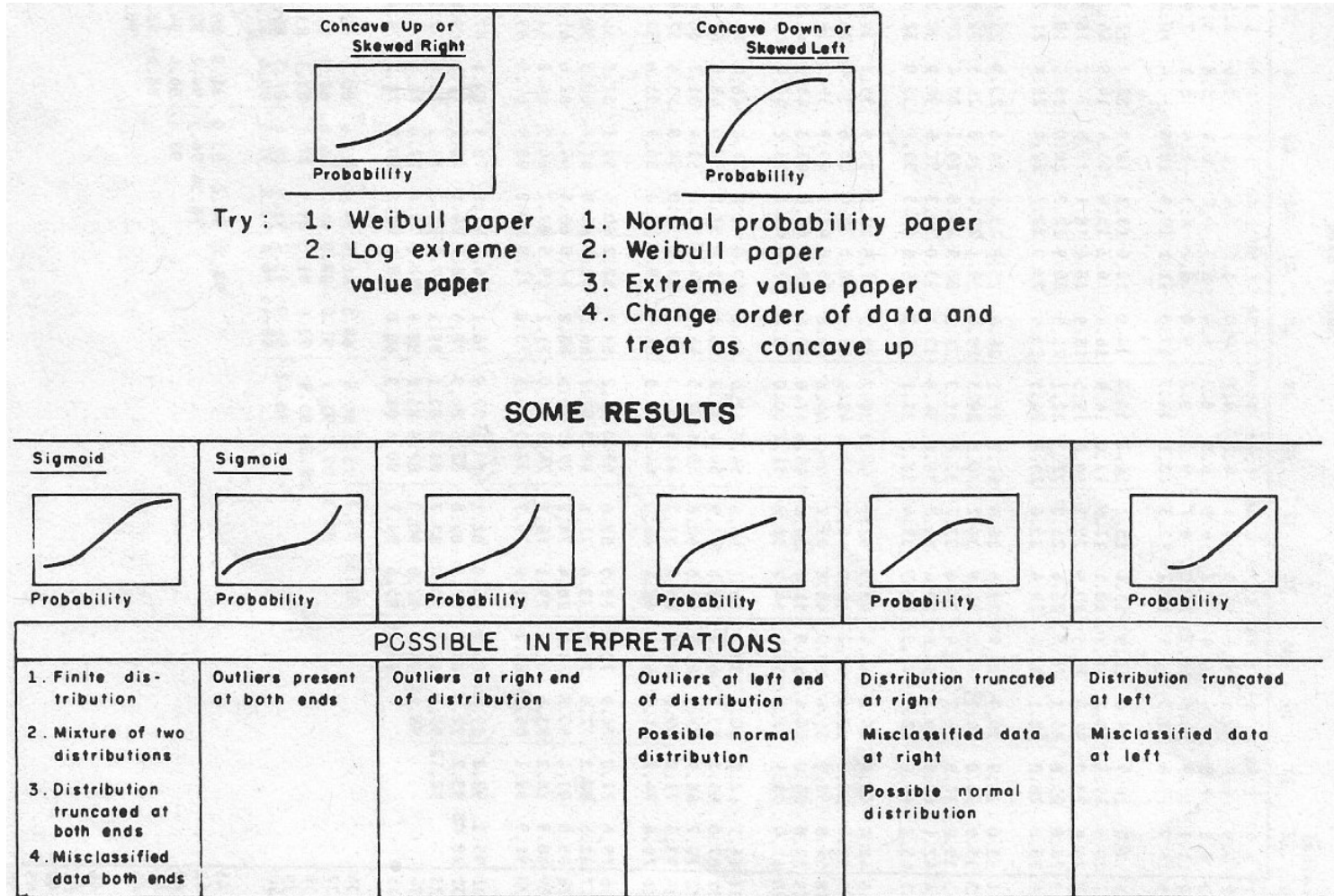


Figure I-3. Interpretation of data plotted on lognormal probability paper. (Adapted from Santner [I-7])