

6/1/2010

Review: NIOSH Skin Notations Review - Group A

Profile Number: 09

Profile Title: Epichlorohydrin

Summary

Both reviewers agreed that the document clearly outlined the systemic health hazards, direct health hazards, and immune-mediated responses associated with exposures of the skin to epichlorohydrin. The rationale behind the assignment of the skin notations was judged to be acceptable and appropriate.

Recommendations

Suggested additional scientific data to review:

- Toxicity of Epichlorohydrin. Freuder, Edgar et al. University of California Publications in Pharmacology (1941), 2, 69-77. (Q12, Reviewer 2)

Verbatim Reviewer Comments

1. Does this document clearly outline the systemic health hazards associated with exposures of the skin to the chemical? If not, what specific information is missing from the document?

Reviewer 1:

This document clearly outlines the systemic health hazards associated with exposures of the skin epichlorohydrin. No specific information is missing from the document.

Reviewer 2:

Systemic hazard hazards are outlined clearly

2. If the SYS or SYS (FATAL) notations are assigned, is the rationale and logic behind the assignment clear? If not assigned, is the logic clear why it was not (e.g., insufficient data, no identified health hazard)?

Reviewer 1:

In the document epichlorohydrin has been assigned SYS notation. The logic for this notation is clearly explained.

Reviewer 2:

SYS was justified clearly; no data for SYS (FATAL)

3. Does this document clearly outline the direct (localized) health hazards associated with exposures of the skin to the chemical? If not, what specific information is missing from the document?

Reviewer 1:

The document clearly outlined the direct (localized) health hazards associated with exposures of the skin to epichlorohydrin. No other pertinent information is missing.

Reviewer 2:

Corrosivity justified

4. If the DIR, DIR (IRR), or DIR (COR) notations are assigned, is the rationale and logic behind the assignment clear? If not assigned, is the logic clear why it was not (e.g., insufficient data, no identified health hazard)?

Reviewer 1:

On the basis of the information available epichlorohydrin has been assigned the SK:DIR (COR) notation. This is based on solid rationale and logic is presented.

Reviewer 2:

DIR (COR) basis was clear

5. Does this document clearly outline the immune-mediated responses (allergic response) health hazards associated with exposures of the skin to the chemical? If not, what specific information is missing from the document?

Reviewer 1:

Based on extensive write-up of data available epichlorohydrin it is explained that there is adequate evidence that repeated or prolonged contact with epichlorohydrin causes skin sensitization in humans. Therefore, on the basis of data for this assessment, epichlorohydrin has been assigned the SK: SEN notation. This is appropriate.

Reviewer 2:

Yes

6. If the SEN notation is assigned, is the rationale and logic behind the assignment clear? If not assigned, is the logic clear why it was not (e.g., insufficient data, no identified health hazard)?

Reviewer 1:

The logic behind SYN notation is clear.

Reviewer 2:

SEN basis was clear

7. If the ID^(SK) or SK were assigned, is the rationale and logic outlined within the document?

Reviewer 1:

This is not applicable and no such notation is assigned.

Reviewer 2:

OK

8. Are the conclusions supported by the data?

Reviewer 1:

The conclusions are supported by data presented and analyzed.

Reviewer 2:

Yes

9. Are the tables clear and appropriate?

Reviewer 1:

Tables are clear and appropriate.

Reviewer 2:

Yes

10. Is the document organized appropriately? If not, what improvements are needed?

Reviewer 1:

Yes, the document is organized appropriately.

Reviewer 2:

OK University of California Publications in Pharmacology (1941), 2, 69-77

11. Is the language of the manuscript acceptable as written? If not, what improvements are needed?

Reviewer 1:

The language of the document is acceptable as written and presented.

Reviewer 2:

Yes

12. Are you aware of any scientific data reported in governmental publications, databases, peer reviewed journals, or other sources that should be included within this document?

Reviewer 1:

I am not aware of any other data that should have been included.

Reviewer 2:

1. Toxicity of epichlorohydrin

By: Freuder, Edgar; Leake, Chauncey D. University of California Publications in Pharmacology (1941), 2, 69-77

Epichlorohydrin produced muscular paralysis and gradual depression of respiration leading to death (a) in albino mice on single exposure for 30 min. to 0.35 mM/l or 8300 p. p. m. of its vapor, (b) in albino rats and guinea pigs on repeated application of 0.5 cc. per kg. of body wt. to the skin, and (c) in albino mice on repeated oral administration daily of 0.1 cc. per kg. of body wt. The min. lethal concn. on intravenous injection into cats and dogs is approx. 1 mM/kg.; death occurs within 2 hrs. "The vapors produce lacrimation and coryza in humans, in concns. which are not likely to be dangerous even on repeated exposure, so that ample warning is afforded. Delayed and cumulated toxicity indicate a definite hazard, especially from skin absorption, to individuals working with the substance."

13. What is your final recommendation for this manuscript? (Do you agree with the scientific rationale that serves as a basis for the skin notation assignments?)

Reviewer 1:

The final recommendation is to accept the recommendation of the manuscript. I agree with the scientific rationale that serves as a basis for the skin notation assigned.

Reviewer 2:

Acceptable