

6/7/2010

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**Review:** NIOSH Skin Notations Review - Group A  
**Profile Number:** 06  
**Profile Title:** Acrylonitrile

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### Summary

The review of the acrylonitrile manuscript was positive in every area and the reviewers had no recommendations. Both reviewers agreed that the systemic health hazards, direct health effects, and immune-mediated responses associated with dermal exposure were clearly outlined. Reviewers state that the rationale and logic for the SYS (FATAL), DIR, and SEN notations were clearly presented and concur that the clear, organized document is acceptable.

### Recommendations

- None.

### 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:

The document presents data (human, animal, and predictive) supporting the conclusion that acrylonitrile is absorbed through the skin. It states that signs of cyanide poisoning have been seen in dermally exposed humans, and that dermal exposure caused extreme toxicity and death in animals and possibly in a 10 year old child. Systemic effects after dermal exposure in animals included vascular congestion and hemorrhages, and neurotoxicity.

Reviewer 2:

The hazards are clearly outlined.

**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:

The rationale for the SYS(FATAL) notation is clearly and logically presented.

Reviewer 2:

The SYS (FATAL) designation basis was clear

**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 effects of direct exposure to skin are clearly summarized in the document.

Reviewer 2:

Yes

**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:

The logic for the DIR (IRR) notation is clearly presented.

Reviewer 2:

DIR(IRR) assigned clearly.

**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:

The document clearly present the data from humans and the predictive model that are relevant to the conclusion that acrylonitrile is a skin sensitizer.

Reviewer 2:

Clearly outlines.

**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 rationale for the SEN notation is clearly and logically presented.

Reviewer 2:

SEN basis was clear.

**7. If the ID<sup>(SK)</sup> or SK were assigned, is the rationale and logic outlined within the document?**

Reviewer 1:

NA

Reviewer 2:

Adequate

**8. Are the conclusions supported by the data?**

Reviewer 1:

NA

Reviewer 2:

Yes

**9. Are the tables clear and appropriate?**

Reviewer 1:

The tables are clear and appropriate.

Reviewer 2:

yes

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

Reviewer 1:

The document is organized appropriately.

Reviewer 2:

no

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

Reviewer 1:

The language is acceptable as written.

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 additional data which should be included.

Reviewer 2:

No

**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:

I agree with the rationale for the skin notation assignments for acrylonitrile presented in this document.

Reviewer 2:

Acceptable