

UNION ELECTRIC — MANAGEMENT INSTRUCTIONS
OCCUPATIONAL SAFETY & HEALTH

Date:	September 14, 1973
Directed To:	All Function Heads
No.:	OSH 200.5
Reference:	OSH Standards 29 CFR Part 1910.93- Air Contaminants

Subject:

CONTROLS for EMPLOYEE EXPOSURE to ASKARELS

Policy — Instructions:

I. PURPOSE

To provide instruction to management for action necessary to eliminate or control employee exposure to Askarels.

II. GENERAL INFORMATION

A. Description and Uses

Askarel is a liquid insulation containing chlorinated hydrocarbons (chlorodiphenyl) which is toxic to man through vapor inhalation or prolonged skin contact and harmful to animal life by entry into the environment.

Askarel is used in the Union Electric System in capacitors, network transformers, associated high voltage switch compartments, and in other transformers where a non-combustible insulating liquid is required.

Some of the trade names used by electrical manufacturers for their Askarel products are:

Inerteen	(Westinghouse)
Pyranol	(General Electric)
Chlorestol	(Allis Chalmers)
Dyknol	(Federal Pacific)
Elemex	(McGraw-Edison)

B. Types of Hazards

1. Skin Contact

Chlorodiphenyl is absorbed by the skin. Local action is similar to that of common organic solvents where contact leads to removal of natural fats and oils with subsequent drying and cracking of the skin.

Allergy to Askarel may cause skin irritation.

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1. B. (Cont'd)

2. Eye Contact

Both vapor and liquid moderately irritating to tissues.

3. Inhalation

Little vapor hazard of fluid at ambient temperature. Vapors of hot or decomposing fluids are toxic -- the degree of toxicity depending upon the employee breathing zone concentrations.

C. Exposure Limitations1. Vapors

Employee exposure shall not exceed 1.0 mg/M^3 for the 16% and 42% chlorodiphenyl and 0.5 mg/M^3 for the 54% chlorodiphenyl based on an eight-hour time weighted average. (See OSHA 1910.93(a)(2) for reference.)

a. Vapor hazard is slight or absent with routine handling at ambient temperatures (up to $131^\circ\text{F}/55^\circ\text{C}$) and with natural ventilation.

b. Vapors of fluid temperature greater than 55°C are toxic.

2. Eye Contact

Avoid at all times

3. Skin

Avoid prolonged or repeated contact.

III. INSTRUCTION

Local management personnel are to:

A. Inform employees assigned to handle Askarel of the hazard potential involved.

B. Provide adequate ventilation for those employees assigned to work in confined spaces so that exposure does not exceed limits noted above.

C. Insure that all personnel handling Askarel be provided with:

1. Instructions relative to good hygiene practices.

a. Wash hands with warm water and soap before eating, drinking, smoking, or using toilet facilities.

b. Remove Askarel soaked clothes, wash skin, and launder clothing before reuse.

III. (Cont'd)

- D. Insure that all personnel handling minimal quantities of Askarel under normal conditions--that is, routine maintenance and repairs--be provided with:

1. Eye protection (for handling where possibility of splashing exists).

- a. Face shield (Stock No. 49-04-187) or,
 - b. Chemical cover goggles (Stock No. 49-04-163).

2. Hand protection (for prolonged or repeated contact).

- a. Impermeable gloves (vinyl No. 49-04-246, electrical) or,
 - b. Barrier creams (Stock No. 14-01-108)

- E. Insure that all personnel handling Askarel under emergency conditions--that is, hot spills, transformer rupture or blowups, etc.--will be provided as needed with:

1. Full body impermeable clothing--reusable or disposable.

2. Impermeable footwear.

3. Impermeable gloves.

4. Eye protection--as specified under D1.

5. Respiratory protective equipment.

- a. Self-contained breathing apparatus or,
 - b. Gas mask.

(Note: Only required in confined spaces and if temperature of Askarel is in excess of 55°C.)

(Refer to U. E. "Guide to Personal Protective Equipment.")
Use of this equipment requires the surveillance of other personnel capable of rescue.

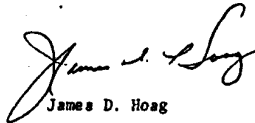
- F. Provide emergency and medical treatment for:

1. Eye Contact

Irrigate eye(s) with water or "neutralize" for 15 minutes--refer to physician.

III. F. (Cont'd)

2. Employees who develop skin or respiratory irritation, refer to physician.
3. Employees exposed to high vapor concentrations, as in the case of "hot" spills, refer to physician.


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Approved: 

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