REQUEST FOR TOXICOLOGICAL INFORMATION

"TEFLON"® DIVISION CHEMICALS

Past studies made at Haskell Laboratory have indicated that ammonium perfluorooctanoate (C-8 APPC), which is used in the preparation of "Teflon"® dispersions, is highly toxic when inhaled and moderately toxic when injected. However, data are not available on the chronic local or chronic systemic effect of the compound in the solid state or dissolved in "Teflon" dispersions.

A review of the medical history of employees in the dispersion's area revealed that with the exception of two cases of dermatitis, which were probably due more to temperature and moisture than specific chemicals, there have not been any indications of toxicological effects of chemicals. The plant Medical group is aware of the potential effects of the area chemicals and monitor area employees, both individually and statistically.

We are interested in determining the systemic effect for repetitious skin contacts of short duration with C-8 APPC powder and with the aqueous dispersion of polytetrafluoroethylene containing C-8 (or chlorendic acid). We are also interested in determining the chronic effect of inhalation of minute quantities of C-8 APPC. In addition to knowing these effects we would like guidance on the personnel equipment necessary for adequate protection against these effects. Would you determine the cost of each separate study, the potential for beneficial data...
beyond our ability to extrapolate existing qualitative data, and if the following data is sufficient for Haskell Lab's purposes.

C-8 APFC Charging

REDACTED

000081
Haskell Number

HASSELL LABORATORY FOR TOXICOLOGY AND INDUSTRIAL MEDICINE

SAMPLE SUBMITTED FOR TOXICITY EVALUATION

Department Plastics Division Fluorocarbons Location Washington Works

Systematic Name of Chemical:
- Ammonium Perfluorooctanoate

Synonym, Product Name and/or Designations:
3M's Wetting Agent FC-143, C-8 APFC

Formula: \( CF_3 (CF_2)_6 COONH_4 \)

Sample: Code No. Lot No. Amount

Grade Color White Form Mol. Wt.

Special Handling Requirements

Is it explosive in air? No in oxygen? if so, at what concentrations?

Active Ingredient C-8 APFC 95%

Composition, if a mixture (are percentages by weight or volume?)
- C-8 95% Minimum
- C-6 5% Maximum

Impurities (Identity and amounts; are percentages by weight or volume?)
- C-6 5% Maximum

Decomposes 150°C @ 25°C Negligable

Properties: MP BP VP @ Max. Process Temp. 100°C (Attach MP curve if available)
- 2% Aqueous Solution
- Sp.Gr. pH Min Vapor Density (air = 1)
- Flash Point (Open cup) (Closed cup)

Solubility (Quantitative, if possible) in water Yes Acetone
- Ethanol
- Vegetable oil
- Other Solvents

Proposed Use:

Ingredient in Polymerization Recipe

Present Stage of Development: Research Sales

(OVER)
Employee Exposure

1. Concentration of material in process______ 1200 PPM
2. Solvent and other chemicals present Water, Disuccinic Acid Peroxide
3. Is exposure by inhalation _X_ skin absorption _X_ other _______
4. Maximum temperature of material in process ______ 100°C
5. Is the compound present in the atmosphere in the form of vapor ______ No ______ mist ______ No _______ dust _______ Slight ______
6. Maximum concentration likely to be present in atmosphere _______ Unknown
7. What type of ventilation is in use? _______ High Volume
8. What type of protective clothing is worn? _______ Gloves, Goggles, Dust Mask
9. Exposure is for ______ hours ______ minutes per day See Attached Letter

Consumer Exposure

What is possibility of:

1. Ingestion ______ Very Slight ______ NOTE: See Attached Letter for Write-Up
2. Inhalation ______ Minor Quantity
3. Skin contact ______ Fair
4. Eye contact ______ Slight

Experience to Date

Have any clinical signs of toxicity such as headaches, difficulty in breathing, dizziness, nausea, skin or eye irritation, etc., been reported by persons who have been in contact with the chemical? If so, please list them and describe circumstances under which they occurred.

No

NOTE: Haskell Laboratory will retain the unused portion of stable, nonflammable, nonvolatile, low toxicity samples for 5 years unless requested to return to sender immediately after testing. After 5 years, the samples will be discarded or returned to the appropriate department. It is suggested that the sender also retain a suitably identified portion of the sample sent for toxicity evaluation for his own future reference.

Signature W. E. Hilton Date 2/13/70

EID123142

Source: https://www.industrydocuments.ucsf.edu/docs/knpw0228
| TABLE I |
|-----------------|-----------------|
| **Ammonium Perfluorooctanoate (C-8 APPC)** | **Chlorendic Acid** |
| **Formula:** CF₃(CF₂)₆COONH₄ | **Formula:** C₉H₄O₄Cl₆ |
| **Manufacturer:** 3M (FC-143) | **Manufacturer:** Hooker Electrochemical Company |
| **Previous Tests:** | **Previous Tests:** |

Source: https://www.industrydocuments.ucsf.edu/docs/knpw0228