PLEASE FILL OUT AND RETURN TO FIRESTONE SYNTHETIC, ATTN: I. S. WILSON PURCH. AGENT 1-8-71

S-3341 REV. 12-69

FIRESTONE DATA SHEET

FOR TOXICOLOGICAL AND SAFE HANDLING INFORMATION

RUSH

(Please Complete Applicable Sections on Both Sides)

INFORMATION REQUESTED BY: MR. S. H. MOOSAVIAN (Name) SYNTHETIC (Plant)

1. Product name, chemical name, number, synonym: THERMINOL FR-1

2. Physiological Properties:

a. Acute oral toxicity: LD_{50} in rats 12,500 mg/kg

b. Local effects upon eyes: Mild to moderate irritants in rabbits; pain in humans out of proportion to degree of irritation.

c. Local effects upon skin: Not an irritant--solvent action can lead to defatting and drying.

d. Acute & chronic inhalation toxicity (volatile materials): Not a hazard at ambient temperatures due to low volatility

e. Warning Properties (Odor, irritation to eyes, nose or throat): Mild chlorinated organic odor; irritating to eyes, nose and throat at high concentrations.

f. Estimated Threshold Limit Value (if not on current list by American Conference of Governmental Industrial Hygienists): TLV = 1.0 mg/cubic meter

3. First Aid Treatment:

a. Skin contact: Wash with soap and water

b. Eye contact: Flush with warm water for 15 minutes. If irritation persists see a physician.

c. Inhalation: Should not be necessary due to low volatility.

d. Antidote in case of swallowing: Induce emesis; treat symptomatically.

4. Precautions for Normal Conditions of Use: Avoid prolonged and repeated contact with skin, avoid eye contact, avoid inhalation of mist and vapors if fluid is heated to high temperatures.

5. Recommended Protective Equipment: With normal handling none is needed; recommend good industrial hygiene practice

6. Chemical and Physical Properties:

a. Specific gravity (water=1) 1.381 - 1.392 b. Vapor density (air=1) >1

c. Vapor pressure mm Hg at 25°C Less than 1 d. pH Neutral

e. Corrosive action on materials such as: aluminum; magnesium; plastics; rubber; lacquers; enamels; fabrics; etc.: No corrosive effects noted with most common metallic materials; has a plasticizer effect on certain elastomers and plastics; OK with fluorocarbons, polycarbonates, epoxys, phenol-formaldehyde resins, also reinforced polyesters only at low temperatures.

f. Does the material decompose violently when exposed to air? Water? Heat? Strong Oxidizers? No

MONS 097842

g. List percentage composition of ingredients, including impurities.
NOTE: Proper chemical names must be known. Generalizations such as petroleum hydrocarbons, alcohols, ketones, chlorinated hydrocarbons, etc., are not adequate for toxicological evaluation.

Compound	Percent
Blend containing as a principal component biphenyl chlorinated to 42% chlorine by weight.	

h. Does the material generate heat through polymerization or condensation? No

i. Flash point °F: Closed Cup _____; Open Cup 348-356°F; If F.P. changes during evaporation, give data: _____

j. Explosive limits (% vol. air): Lower None; Upper _____

k. Susceptibility to Spontaneous Heating: Yes _____; No X

l. Fire Point °F Fire Resistant; Auto ignition temperature °F _____

m. Vapor density >1

n. What products might be formed in the event of fire or abnormal temperatures? HCL, CO, CO_2 and short chain organics.

o. Suitable extinguishing agents: Not needed--fire resistant

7. Procedure in Case of Breakage or Leakage: Clean up like petroleum oil

8. Transportation and Storage Requirements: No special requirements

9. Has this product received acceptance by FDA, or is work in progress to obtain such acceptance? Not for use in food applications.

Give regulations where listed. _____

10. Information Furnished By: Jack T. Garrett Title: Manager, Industrial Hygiene

Company: Medical Department, Monsanto Company

Address: 800 N. Lindbergh Blvd., St. Louis, Missouri 63166

Date: 2/19/71

NOTE: Information in regard to this material's composition will be treated as confidential and used only for the purpose of protecting the health and safety of Firestone employees and the safeguarding of its property.

Mail completed form to:
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INDUSTRIAL HYGIENE DEPT., MEDICAL DIVISION
THE FIRESTONE TIRE & RUBBER COMPANY
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