

SECTION I – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: FR-550
Manufacturer: Motion Picture F/X
Address: 2920 W Magnolia Blvd **City:** Burbank
State: CA **Zip:** 91505
Emergency Telephone Number: 1-800-949-5167
Information Telephone Number: 1-818-563-2366
Chemtrec Phone: 1-800-424-9300; **Internationally call 703-527-3887**
Effective Date: 09/27/2001 **Supersede Date:** 08/01/2000
Synonyms: CN-2635
Product Use: Flame Retardant
Chemical Name: Mixture
Chemical Family: Halogenated aryl esters/Aromatic phosphate Blend

Additional Information

No information available

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS			
INGREDIENT NAME	CAS NO.	%	EXPOSURE LIMITS
*Component B Triaryl phosphate, isopropylated	TS TS	-10 - 60 24 - 51	Y (Hazardous) Not established (OSHA PEL TWA) Not established (OSHA PEL STEL) Not established (OSHA PEL CELL) Not established (ACGIH TLV TWA) Not established (ACGIH TLV STEL) Not established (ACGIH TLV CEIL) Y (Hazardous)
Triphenyl phosphate	11566	6-21	3 ppm (OSHA PEL TWA) Not established (OSHA PEL STEL) Not established (OSHA PEL CET L) 3 ppm (ACGIH TLV TWA) Not established (ACGIH TIN STEL) Not established (ACGIH TIN CE ILt Y (Hazardous)
Component A	Ts	It) - 60	Not established (OSHA PEL TWA) Not established (OSHA PEL STEL) Not established (OSHA PEL CELL) Not established (ACGIH TLV TWA) Not established (ACGIH TLV STEL) Not established (ACGIH TLV CEIL)

*Indented chemicals are components of previous ingredient.

Additional Information

No information available

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I SECTION III - HAZARDS IDENTIFICATION

Amber liquid
 Mild odor
 May cause allergic skin reaction.
 Mists generated by heat, violent agitation or spraying will irritate skin, eyes, nose, throat and respiratory system.
 Toxic to aquatic organisms.
 Ingestion, inhalation and skin absorption

General reddening and irritation to the skin and eyes, mucous membrane irritation, upper respiratory tract irritation.

<p>Medical Conditions] <u>Health Effects:</u> Generally s</p> <p><u>Aggravated By Exposure:</u> <u>Potential</u> Eyes: Skin:</p> <p>Ingestion: Inhalation:</p> <p>Chronic Health Effects:</p>	<p>Dermatitis Section XI for additional information. May cause eye irritation. May cause allergic skin reaction. May cause skin irritation. May cause nervous system effects. May cause respiratory tract irritation, mucous membrane irritation and nervous system effects. Long term oral overexposure may cause neurological effects and kidney damage based on animal data.</p>
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Carcinogenicity:

NTP:	No	ACGIH:	No
IARC:	No	OTHER:	No
OSHA:	No		

Additional Information

No information available

SECTION IV - FIRST AID MEASURES

<p>Eyes: Skin:</p> <p>Ingestion:</p> <p>Inhalation: Antidotes:</p> <p>Notes to Physicians and/or Protection for First-Aiders:</p>	<p>Flush with large volumes of water for at least 15 minutes. Get medical attention. Wash with large volumes of soap and water for at least 15 minutes. If irritation develops, get medical attention. If conscious, give person 1 to 2 glasses of water. Get medical attentinn immediately. Remove person to fresh air. Get medical attention. No information available No information available</p>
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Additional Information

No information available

SECTION V - FIRE FIGHTING MEASURES

<p>Flammable Limits in Air (% by Volume): Flash Point: Autoignition Temperature: Extinguishing Media: Fire Fighting Instructions:</p>	<p>Not available >200 degrees C Not available All conventional media are suitable. Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact in fire situations.</p>
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SECTION V - FIRE FIGHTING MEASURES

Under fire conditions, toxic and irritating fumes may be

Unusual Fire and Explosion Hazards:

Flammability Classification: Known or Anticipated

Hazardous Products of Combustion:

No information available

emitted. Non-flammable liquid

Hydrogen bromide
and/or bromine
Oxides of
phosphorus

Carbon monoxide and carbon dioxide

Additional Information

SECTION VI - ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

Wearing appropriate personal protective equipment, collect spill with the aid of an inert absorbent and place in suitable labeled containers for disposal. Wash spill area after pick-up is complete, collecting all clean up water for appropriate disposal.

Personal Precautions:

See Section VIII.

Environmental Precautions:

Avoid releasing to the environment.

Do not allow spills to enter surface waters (streams, rivers, ponds lakes, etc.).

Additional Information

No information available

II SECTION VII - HANDLING AND STORAGE

Handling:

Use appropriate personal protection equipment.
Avoid eye, skin and clothing contact.
Do not breathe mist or vapor.
Avoid repeated and prolonged contact.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible materials.

Other Precautions: No information available

Keep container tightly closed.
Do not store above 180 degrees F.

No information available

Additional Information

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

No information available

Use local exhaust to minimize misting and vapor. Use mechanical ventilation for general area control.

Chemical safety glasses with side shields or chemical safety goggles
Chemical resistant gloves

Clothing designed to minimize skin contact

Wear a NIOSH/MSHA approved organic/acid gas cartridge respirator if misting or vapor occurs.

Consult the OSHA respiratory protection information located at 29CFR 1910.134 and the American National Standard Institute's

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SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Other Protective Clothing or Equipment: Exposure Guidelines: Work Hygienic Practices:	No information available See Section II. Wash thoroughly after handling. <u>Wash contaminated clothing before reuse.</u>	
No information available		

I SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Amber liquid	Percent Volatile:	<0.1
Boiling Point:	Not available	pH Value:	Not available
Bulk Density:	Not available	pH Concentration:	Not available
Color:	Amber	Physical State:	Liquid
Decomposition Temperature:	Not available	Reactivity in Water:	Not water reactive
Evaporation Rate:	Not available	Saturated Vapor Concentration:	Not available
Freezing Point:	Not available	Softening Point:	Not available
Heat Value:	Not available	Solubility in Water:	Insoluble
Melting Point:	Not available	Specific Gravity or Density (Water=1):	1.41 at 25 degrees C
Molecular/Chemical Formula:	TS	Vapor Density:	Not available
Molecular Weight:	NA	Vapor Pressure:	Not available
Octanol/Water Partition Coefficient:	Not available	Viscosity:	314 cps
Odor:	Mild	Volatile Organic Compounds:	Not available
Odor Threshold:	Not available	Water/Oil Distribution Coefficient:	Not available
Particle Size:	Not available	Weight Per Gallon:	Not available
<i>Additional Information</i>			
No information available			

II SECTION X - STABILITY AND REACTIVITY

Stable under normal conditions of handling and use. None

Strong oxidizers Strong acids

Strong alkalies can hydrolyze bromine.

Hazardous Decomposition Products: Hazardous Polymerization: Conditions to Avoid:	Thermal decomposition may produce the following: Hydrogen bromide and/or bromine Oxides of phosphorus Carbon monoxide and carbon dioxide Will not occur None
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Additional Information.

No information available

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I SECTION XI - TOXICOLOGICAL INFORMATION

VALUE (LD50 OR LC50)	ANIMAL	ROUTES	COMPONENTS
>200 mg/L/1H	Rat	Acute Inhalation	Similar compound to Component B
>2,000 mg/kg	Rabbit	Acute Dermal	Component A
>2,000 nig/kg	Rabbit	Acute Dermal	Similar compound to Component B
>5,000 mg/kg	Rat	Acute Oral	Similar compound to Component B
>5,000 mg/kg	Rat	Acute Oral	Component A

Toxicological Information:

The toxicological properties of this blend have not been determined. Component information is listed below.

Component A:

This material is not expected to be acutely harmful by ingestion or skin absorption.

This material has been found to be a slight eye irritant in rabbits. (Maximum Average Score in Rabbits = 6.7)

This material has been found to be a slight skin irritant in rabbits. (Primary Irritation Index = 0.4)

In a M & K sensitization assay, this material was found to be a sensitizer.

When tested in dimethyl sulphoxide, this material showed no evidence of mutagenic activity in Salmonella typhimurium and Escherichia coli bacterial systems.

This material did not show any evidence of clastogenic or polyploidy-inducing activity in an in vitro cytogenic test system.

In a 28-day oral neurotoxicity study in rats at levels of 160, 400 and 1,000 mg/kg/day, no indications of neurotoxicity were observed. However, at 1000 mg/kg/day kidney effects were observed. The NOEL for systemic toxicity was established at 160 mg/kg/day.

Component B:

Based on a similar product, this material has low acute oral and dermal toxicity. Primary eye and skin irritation studies in rabbits on a similar product did not result in eye or skin irritation. However, eye and skin irritation may be possible. Prolonged or continuous contact with skin will cause irritation. Product may be irritating to the respiratory system and mucous membranes. Breathing or swallowing large quantities may cause neurological effects. Repeated exposure over a prolonged period of time may cause neurological effects.

Other acute and chronic health effects:

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Additional Information

No information available

I SECTION XII - ECOLOGICAL INFORMATION

Ecological Information:

The following ecological information is offered:

Component A:

The EC50 (respiration inhibition) of activated sewage sludge has been determined to be >100 nig/I for a three hour contact time. This material has not been found to be inhibitory to activated sewage sludge bacteria.

The soil adsorption coefficient (KOC) for this material has been determined to be greater than 28840 at 20 degrees C. This result indicates that mobility in soil for this material is unlikely.

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II SECTION XII - ECOLOGICAL INFORMATION

The half-life of this material has been determined to be greater than 1 year at 25 degrees C at pH values of 4,7 and 9.

EPA has expressed concerns that lower brominated degradation products in water may cause environmental hazards.

Environmental Statements: This substance may be toxic to fish and aquatic organisms.

Environmental Hazard Precautionary Statements: Nctic-c to flsers: Do not r.?15-asp to w?.ter.

Component B:
 LC50 in rainbow trout (96H) = 1.6 (1.2 - 2.2) mg/L
 LC50 in fathead minnow (96H) = 10.8 (8.0 - 14.6) mg/L
 EC50 in Daphnia magna (48H) = 2.44 (1.93 - 3.08) mg/L

Avoid releasing to the environment.

Additional Information.

No information available

I SECTION XIII - DISPOSAL CONSIDERATIONS

Disposal Considerations:	Dispose of waste at an approved chemical disposal facility in compliance with all
No information available	

SECTION XIV - TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Contains triaryl phosphate, isopropylated and triphenyl phosphate)		
Hazard Class:	9	11.) Number:	UN3082
Packing Group:	III	Labels:	Miscellaneous, Marine Pollutant
Special Provisions:	8, N50, T1	Packaging Exceptions:	155
Non-Bulk Packaging:	203	Bulk Packaging:	241
Passenger Air/Rail Limit:	None	Air Cargo Limit:	None
Vessel Stowage:	A	Other Stowage:	N/A
Reportable Quantity:	N/A		

AIR - ICAO OR IATA

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Contains triaryl phosphate, isopropylated and triphenyl phosphate)		
Hazard Class:	9	ID Number:	UN3082
Subsidiary Risk:	None	Packing Group:	III
Hazard Labels:	Miscellaneous, Marine pollutant	Packing Instructions:	914; LQ Y914
Air Passenger Limit Per Package:	LQ 30kg G	Cargo:	914

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Additional Information

The above regulatory information represents only selected regulations and is not meant to be a complete list.

SECTION XVI - OTHER INFORMATION

NFPA Codes:			
Health:	NR	Flammability:	NR
Reactivity:	NR	Other:	NR
JIM'S Codes;		* indicates chronic health hazard.	
Health:	NR	Flammability:	NR
Reactivity:	NR	Protection:	NR
Label Statements:		Not available	
Other Information:		Abbreviations:	
		(L) = Loose bulk density in g/ml	

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SECTION XVI - OTHER INFORMATION

LOEC = Lowest observed effect concentration
MATC = Maximum acceptable toxicant concentration
NA = Not available
N/A = Not applicable
NL = Not limited
NOAEL = No observable adverse effect level
NOEC = No observed effect concentration
NOEL = No observable effect level
NR = Not rated
(P) = Packed bulk density in g/ml
PNOC = Particulates Not Otherwise Classified
PNOR = Particulates Not Otherwise Regulated
REL = Recommended exposure limit
TS = Trade secret

Additional Information

Information on this form is furnished solely for the purpose of compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200 and The Canadian Environmental Protection Act, Canada Gazette Part II, Vol. 122, No. 2 and shall not be used for any other purpose.

Revision Information:

Section I - Product Name Change
Section III - Health hazard information
Section XI - Toxicological information
Section XII - Ecological information

Emergency Overview:

Relevant Routes of Exposure: Signs and Symptoms of Overexposure:

Engineering Controls: Ventilation Requirements:

Personal Protective Equipment: Eye/Face Protection: Skin Protection:

Respiratory Protection:

Stability:

Conditions to Avoid: Incompatibility With Other Materials:

ID Number: Subsidiary Risk:

UN3082

N/A

None

II SECTION XIV - TRANSPORT INFORMATION

Air Cargo Limit Per Package:

Proper Shipping Name:

Hazard Class:

Packing Group:

Medical First Aid Guide Code:

Special Provisions

No limit **Code:** A97

WATER - IMDG

Environmentally hazardous substance, liquid, n.o.s. (Contains triaryl phosphate, isopropylated and triphenyl phosphate)
9 HI

Additional Information

EmS No. • None
Marine Pollutant

I SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations:

The components of this product are either on the TSCA Inventory or exempt (i.e. impurities, a polymer complying with the

exemption rule at 40 CFR 723.250) from the Inventory.

The manufacture and use of this material is regulated by a Significant New Use Rule (SNUR) under TSCA which can be located at 40CFR 721.2925. These requirements apply to the use of this substance or formulations containing this substance.

State Regulations:

Triphenyl phosphate:

Massachusetts Substance List

New Jersey Right To Know Hazardous Substance List (1% reporting limit)

Pennsylvania Hazardous Substance List (1% reporting limit)

International Regulations: •

This material (or each component) is listed on the following inventories⁴

EU - ELINCS

Triphenyl phosphate: Canadian Disclosure List fro

Canadian WHMIS Hazard Class and Division = 112.b SARA Hazards:		
	Chronic: Fire:	No