

# FLAME SHIELD®

Multi-Purpose  
**Fire Retardant**

## PRODUCT INFORMATION SHEET

PRODUCT NAME: FLAME-SHIELD®

PRODUCT ID#: FS-39

DESCRIPTION: FLAME-SHIELD, is a *halogenated mixture*

which when properly applied will impart flame resistance to cellulosic or synthetic substrates, or cellulosic/synthetic combinations.

### TECHNICAL SPECIFICATIONS:

Form Aqueous Solution

Appearance Water-Like

Color Clear to Milky White

Odor Ammonia like

Ph 6.5 - 7.5

Freezing Point 32 deg. F

Shelf life 6-12 months when stored between 55° - 110° F

### DIRECTIONS FOR USE:

**DILUTION:** Dilute to necessary strength (depending on the type of fabric composition). Flame-Shield can be sprayed, brushed, padded or placed in a bath for immersion. Allow treated fabrics to be air-dried or oven-dried before use. It is suggested that prior to treatment, small samples be treated and tested for suitability of product and for Fire Code that the fabric must pass.

**CAUTION:** Over application may cause streaking of fabric or chalky residues to appear.

### NOTES:

1. FLAME-SHIELD is registered with the United States Patent and Trademark office in Washington, DC.

2. Approved by CITY OF NEW YORK, BUREAU OF STANDARD AND APPEALS:  
Calendar # 141-89-SM

3. Approved by the STATE OF CALIFORNIA, CALIFORNIA STATE FIRE MARSHAL:  
Registration # C-17400.

CONSULT MATERIAL SAFETY DATA SHEETS (MSDS) FOR FURTHER INFORMATION.

### Federal regulations prohibit CFC propellants in aerosols.

It Bonds for lasting Protection.      Specially Designed Spray Pattern Allows Effortless Coverage of Most Materials.

\* **Flame-Shield®** has been tested for its effectiveness in preventing fires. In addition **Flame-Shield®** has been approved by New York City and California (among the toughest codes in the nation) for its effectiveness in preventing fabric fires.

• **City of New York, Bureau of Standards: Calendar #141-89-SM**

• **State of California, State Fire Marshal: Registration #C-17400 ACTUAL CONTENTS ARE STATE APPROVED.**

### Protects:

Most porous materials including non coated wood, most fabrics, carpeting, arts and crafts and dried flowers just to name a few. Protection will last for many months until the material is dry cleaned several times, or washed. Do not use on nylon. Product is water-soluble and will wash away with water.

### Application:

Test for color fastness in a hidden area of the fabric. Simply spray it on and let it dry.

### Results:

Unlike most of the other flame-retardants on the market **Flame-Shield®** does not change the characteristics of the treated material. No staining, white residue, or stiffening of fabrics. The material is the same as before

**Twin-Chemicals, Inc. 6175 Hickory Flat Hwy. Suite 110-344 Canton, GA 30188**  
**800-442-4958 / 770-924-6147 fax**

treatment with one exception - *IT NOW HELPS PREVENT FIRES!*

**How it works:**

Fire needs two major elements to burn: oxygen and hydrogen - **Flame-Shield®** helps deprive the fire of the hydrogen and thus retards the spread of the fire.

**SPRAYING FLAME-SHIELD ON FABRICS:**

1. Place Flame-Shield formulation in sprayer.
2. Spray in even and slightly overlapping strokes.
3. Saturate fabric but DO NOT make it dripping wet.
4. Allow fabric to completely dry before packing and shipping.

**CERTIFICATES:** The applicator may be requested to provide a certificate stating that the application passes a certain code. This certificate is normally provided by the applicator, in writing.

Currently there are several certificates which are normally requested. They are as follows:

< **New York City:** Flame-Shield has been approved by the government of the City of New York through the Bureau of Standards and Appeals under Calendar Number 141-89-SM. All certificates must specify Flame-Shield by name and show the above calendar number.

< **Boston:** The City of Boston of the Commonwealth of Massachusetts requires that all specimens be submitted to their laboratory for testing under its fire code. Currently a fourteen dollar fee is required for each sample submitted. Samples should be submitted to:

**Boston Fire Prevention/ 115 South Hampton Street/Boston, MA 02118/ (617) 343-3527**  
customer must bear the cost of such testing.

< **ASTM-E-84:** This is a complex and expensive test. For a list of qualified laboratories call us. Your

< **NFPA-701:** (small scale) - This is very similar to the requirements of the City of New York and is considered one of, if not the toughest fire codes in this country. The applicator's testing procedure described elsewhere in this manual is similar to this test. Flame-Shield is geared to pass this test with proper application. It should be noted that there are several other tests, including the FAA, Port Authority of NY, etc. which Flame-Shield has passed.

# MATERIAL SAFETY DATA SHEET

Emergency Number: Certs 1-800-552-3787

International 24 hr emergency contact: (703) 527-3887

Date Prepared: 03/14/06 (revision 1)

## SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: FLAME-SHIELD

Trade Name or Synonym: NONE

Product Description: Water based fire retardant

CAS Registry #: None

Chemical Name: None

Company Information: Twin-Chemicals, Inc.

6175 Hickory Flat Hwy., Suite 110-344

Canton, GA 30115 (800) 442-4958

## PRODUCT INFORMATION

Product Code: FLAME-SHIELD

DOT Hazard: ORM-D

UN Number: None

Shipping Name: Consumer Commodity

## SECTION II - HAZARDOUS INFORMATION

<u>Ingredient</u>	<u>% by Weight</u>	<u>CAS No.</u>	<u>Exposure Limit</u>
Hydrocarbon Propellant	5-10	68476-86-8	1000ppm

This product contains the following chemicals subject to reporting under EPCRA Section 313 (40 CFR372). None.

\* ACGIH TLV

\*\* OSHA PEL

\*\*\*OSHA STEL

## SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

APPEARANCE AND ODOR: Clear, colorless to hazy liquid with slight ammonia odor

BOILING POINT: ND

VAPOR PRESSURE: 46 PSIG

VAPOR DENSITY (AIR=1): >1

SOLUBILITY IN WATER: Soluble

pH: 6.5 – 7.5

SPECIFIC GRAVITY (H2O=1): 1.2

PERCENT VOC BY WT: 6.0%

EVAPORATION RATE: < 1

REACTIVITY IN WATER: ND

Volatile by volume: ~ 67%

## SECTION IV – FIRE AND EXPLOSION DATA

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FLASH POINT: -156 F (estimated)

Flammable per Flame Projection Test (16CFR 1500.45): Extremely Flammable

FLAMMABLE LIMITS IN AIR (%BY VOLUME) LOWER: ND UPPER: ND

EXTINGUISHER MEDIA: Water, CO2, Dry Chemical, Foam

AUTO-IGNITION TEMPERATURE: ND

UNUSUAL FIRE AND EXPLOSION HAZARDS:

SPECIAL FIRE FIGHTING PROCEDURES: Use self-containing breathing apparatus when fighting fires involving chemicals. Stop the release of materials if possible. Cool the vapor space of the storage container with water spray. Avoid accumulation of unburned materials. Remove personnel in general area.

UNUSUAL FIRE EXPLOSION HAZARD: Vapors are heavier than air and may travel along the ground or may be moved by ventilation systems and ignited by pilot lights, other flames, sparks, heaters, smoking, electronic motors, static discharge or other ignition sources at locations distant from material handling point.

## **SECTION V – REACTIVITY DATA**

STABILITY: Stable

CONDITIONS TO AVOID: None known

INCOMPATIBLE MATERIALS: None known

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition can produce CO<sub>2</sub>, CO and possible traces of HBR and HF.

HAZARDOUS POLYMERIZATION: Will not occur.

## **SECTION VI - SPECIAL PROTECTION INFORMATION**

ENGINEERING CONTROLS:

RESPIRATORY PROTECTION: None required if ventilation is adequate to keep below TLV)

VENTILATION: Recommended to keep air contaminant concentration below PEL and TLV

GLOVES: Neoprene rubber gloves.

EYE PROTECTION: Safety goggles.

OTHER: If TLV of any component of this product is exceeded, a NIOSH/MSHA jointly approved respirator must be supplied to personnel and used in accordance with OSHA regulations: 29CFR 1910.134. Wash hands thoroughly before handling foodstuffs, liquids, or tobacco products.

## **SECTION VII – STORAGE, SPILL AND DISPOSAL INFORMATION**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid contact with eyes. Avoid prolonged and repeated skin contact. Avoid breathing vapors. Use with adequate ventilation. Store in cool dark place away from heat or flame sources.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Observe precautions from other sections. Collect any spills with absorbent material such as vermiculite. Place collected material in a polyethylene lined metal container and seal. Clean up residue with water.

WASTE DISPOSAL METHODS:

## **SECTION VIII – HEALTH RELATED DATA**

PRIMARY ROUTES OF ENTRY: Dermal-Yes, Ingestion-Yes, Inhalation-Yes

POTENTIAL HEALTH HAZARD(ACUTE AND CHRONIC)

EYE CONTACT: Very mild eye irritant. Direct contact with the solution may cause slight iridal and conjunctival irritation. No permanent damage is anticipated.

SKIN CONTACT: Can be mildly irritating upon prolonged exposure (liquid stage only).

INHALATION: Gross over-inhalation may cause sumptoms such as, but not limited to, caughing. May aggravate pre-existing lung disorders.

INGESTION: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

CARCINOGENICITY: NTP-NO, IARC MONOGRAPH-NO, OSHA-NO

TOXICOLOGY INFORMATION: ND

**SECTION IX – FIRST AID MEASURES**

EYES: Flush immediately with clean, free flowing water for 15 minutes. Consult physician if irritation persists.

SKIN: Wash thoroughly with soap and water.

INGESTION: Extremely low toxicity (water based product). Give a quart or more of water to drink and induce vomiting. Provide medical attention. Never administer liquids by mouth to unconscious persons.

INHALATION: Extremely low hazard. Remove person to fresh air. If not breathing, administer artificial respiration including oxygen. Provide medical attention.

**HMIS RATING**

**Health - 1**

**Flammability - 3**

**Reactivity -0**

**Personal Protection: --** (Personal protection information to be supplied by user)

**Although the information and recommendations set forth in this MSDS are presented in good faith and are believed to be correct as of the date of this MSDS, we makes no representations as to the completeness or accuracy thereof. Information is supplied on the condition that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will we or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the MSDS.**

**NA:** Not Applicable

**ND:** Not Determined