Flame Seal Products, Inc.
9420 Knight Road,
Houston, TX, 77045,
713-668-4291 (office)
713-668-1724 (fax)
www.flameseal.com

Safety Data Sheet

1 PRODUCT AND COMPANY INFORMATION

1.1 Product Identifiers

Product Name :	**Flame Seal FX950**
Brand :	Flame Seal Products
Cas # :	NA/mixture

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Water based fire retardant paint.

1.3 Details of the supplier of the safety data sheet

Company:	Flame Seal Products, Inc. 9420 Knight Road, Houston,TX 77053 USA
Telephone #:	713-668-4291
Fax # :	713-668-1724

1.4 Emergency telephone number

Emergency #:	800-424-9300

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910(OSHA HCS)

Not a hazardous product under GHS definitions.

For the full text of the H-statements and other hazards mentioned in this section, see section 16.

2.2 GHS Label Elements, including precautionary statements

HAZARD STATEMENTS:

WARNING!

H303 : 5	May be harmful if swallowed.
H316 : 3	May cause mild skin irritation
H320 : 2B	Causes eye irritation.
H333 : 5	May be harmful if inhaled.

Hazards Not Otherwise Classified

H413: 4	May cause long lasting harmful effects to aquatic life

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dusts or mists.
P273	Avoid release into the environment
P280	Wear eye protection/face protection, gloves, breathing protection, and protective clothing during application.
P264	Wash hands thoroughly after handling.
P 304 + P312	IF INHALED or INGESTED: If you feel unwell, seek medical advice.
P305 +P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention
P337+P313	If eye irritation persists: Get medical advice/attention
P404	Store in a closed container.
P405	Store locked up.
P501	Dispose of contents/container using approved waste disposal facility

2.3 Other Hazards:

See section 8 for exposure controls. See section 16 for full text on H values and labeling exemptions.
See sections 11 and 16 for more information on potential hazards.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula: water based latex coating with intumescent additives

Hazardous Components

Component		
Titanium dioxide CAS # 13463-67-7	Nuisance dust in dry form. See sec 11 for more information	< 15%
Melamine CAS # 108-78-1	Nuisance and combustible dust in dry form See sec 11 for more information	<20%
Pentaerythritol CAS # 115-77-5	Nuisance and combustible dust in dry form	<20%

See Section 11 for material hazards

This product contains preservatives for protecting the coating against spoilage and microbial degradation. See section 16 for more information.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice - Move out of affected area. Consult a physician. Show this Safety Data sheet to physician.

If inhaled – Remove person to fresh air. If symptoms occur, seek medical attention. Inhalation of decomposition products may cause immediate or delayed health hazards.

In case of skin contact – Wash off with soap and plenty of water. If irritation occurs, get medical advice/attention.

In case of eye contact – Flush eyes with plenty of fresh water while holding eyelids open. Remove contact lenses if worn. If eye irritation persists, get medical advice/attention.

If swallowed – Do not induce vomiting. Never give anything by mouth to an unconscious

person. Flush mouth with water. If conscious give water to further dilute chemical. Consult physician.

4.2 Most important symptoms and effects, both acute and delayed. – The most important known symptoms and effects are described in the labeling (see section 2.2) or in section 11

4.3 Indication of any immediate medical attention and special treatment needed. – No data available.

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5. FIRE FIGHTING MEASURES

5.1 Extinguishing media – Not combustible (use water spray, fog, foam, dry chemicals, CO2 or other agents as appropriate for material in surrounding fire).

5.2 Special hazards arising from substance or mixture – extreme heating and/or burning may liberate small amounts of NH3, CO2, HCN, CO, oxides of phosphorous and nitrogen. Sealed containers may burst due to intumescent expansion upon extreme heating.

5.3 Advice for firefighters - Not combustible (use fire fighting measures which are suitable for materials in surrounding fire).

5.4 Special Protective Equipment – DO NOT breath product decomposition products.

Wear appropriate protective equipment and self contained breathing apparatus (SCBA) with a full face-piece in positive pressure mode.

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6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing mist. Ensure adequate ventilation. Evacuate personnel from affected area. For personal protection, see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage, if safe to do so. Keep out of drains, sewers, and waterways.

6.3 Methods and materials for containment and cleaning up

Confine spilled material and absorb with sand, sawdust, earth or other available solids. Sweep up and place in a suitable container for disposal.

6.4 Reference to other sections

See section 13 for further disposal info.

7. HANDLING AND STOR AGE

7.1 Precautions for safe handling –Wear appropriate protective equipment. Provide adequate ventilation. See sections 2.2 and 8.

7.2 Conditions for safe storage, including any incompatibles – Keep container tightly sealed when not in use. Use good industrial practices to avoid spills. Exposure to strong bases and/or prolonged heat may liberate ammonia and CO2. Containers may build up pressure if exposed to fire or extreme heat due to intumescent expansion.

7.3 Specified end use

Shredded rubber coating (passed ASTM E-108) Wood Coating (ASTM E-84 Class A coating on wood.)

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Titanium Dioxide :	ACGIH TLV	**TWA: 10 mg/m3 - 8 hours**
	OSHA PEL	**TWA: 15 mg/m3 - 8 hours. Form – Total Dust**
Melamine	AIHA WEEL	**TWA: 10 mg/m3 - 8 hours. Form – Inhalable fraction**
Pentaerythrytol	NIOSH REL	**TWA: 5 mg/m3 - 10 hours. Respirable fraction.**
		TWA: 10 mg/m3 – 10 hours. Total.
	ACGIH TLV	**T TWA: 10mg/m3 – 8 hours.**
	OSHA PEL	**TWA: 5mg/m3 – 8hours. Respirable fraction.**
		TWA: 15 mg/m3 – 8 hours. Total dust.

Engineering controls – Handle in accordance with good industrial and safety practices. On large jobs a risk assessment should be performed by competent personnel and recommendations made to be sure that all local and regional safety rules, statutes and emissions levels are complied with. The minimum recommendations are:

Personal Protection Equipment

Respiratory Protection (Specify Type): Use a NIOSH/MSHA approved respirator suitable for use with organic vapors when applying coating.

Remediation or sanding – Contains titanium dioxide, which is a suspected human carcinogens in respirable form. **Do not breath dust**! Use measures to control dust to published exposure level limits. Otherwise wear NIOSH suitable respirator for hazardous dust – N100, P100, or R100 filters.

Melamine and pentaerythritol are also considered combustible as fine dust,

which could cause a flash explosion without proper precautions. Control dust accumulation and airborne levels during remediation. Remove all potential ignition sources, where possible.

In case of fire exposure, breathing of the decomposition products should be avoided. See Sec 5 for more information..

Protective Gloves: Wear impervious gloves as necessary to avoid excessive skin contact (i.e. rubber or neoprene)

Eye Protection: Protective glasses or goggles in dust and/or mist areas

Other Protective Equipment: Adequate clothing to minimize direct contact with skin.

Ventilation

Local Exhaust: Use exhaust fans when possible to keep mist and/or dust levels within published limits. All recommended protective gear should still be worn during by applicators, remediators and all personnel in the immediate area.

Mechanical (general): Normal room ventilation

Special: N/A

a) Appearance	White liquid
b) Odor	Slight amine
c) Odor threshold	NA
d) ph	7.5 – 8.5
e) melting/freezing point	NA/~32F
f) Initial boiling point	~212F
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability	None
j) Upper/lower flamm limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	1.30 – 1.40 g/cm3
n) Water solubility	Partially soluble
o) Partition coefficient n-octanol/water	No data available
p) Auto ignition temp	None
q) Decomposition temp	No data available
r) Viscosity	90 - 130 Ku
s) Explosive properties	No data available
t) Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity – No data available

10.2 Chemical Stability – Stable under recommended storage conditions

10.3 Possibility of hazardous reactions - none known

10.4 Conditions to avoid – Evaporation – Keep container sealed tightly when not in use. Extreme heat- Material may pressurize containers due to intumescent reaction to high heat.

10.5 Incompatible materials – strong bases and alkalis

10.6 Hazardous decomposition products – NH3, CO, CO2, HCN, oxides of nitrogen and phosphorous

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Components

Melamine:	Acute toxicity	LD50 oral (rat) 3161 mg/kg
	Irritatation	Mild eye irritant (rabbit) 24 hrs 500 mg
	Inhalation	Respiratory irritant as dust
Pentaerythritol :	Acute toxicity	LD50 oral (rat) 18,500 mg/kg
	Irritation	Mild skin irritant (human) 72 hrs 300 micrograms intermittent
	Inhalation	Respiratory irritant as dust

Finished product:

Acute toxicity – Not established. Not expected to be harmful under recommended usage.

Inhalation - Not established. Not expected to be harmful under recommended usage. Use a NIOSH/MSHA approved respirator suitable for use with organic vapors. See sec 8 for dust precautions.

Dermal - Not established, not expected to be harmful. May be irritating with continual contact /allowing to dry on skin.

Skin corrosion/irritation – May be irritating with continual contact /allowing to dry on skin

Serious eye damage/eye irritation - May cause moderate eye irritation if exposed**.** Wear eye protection.

Respiratory or skin sensitization – Prolonged exposure/ allowing to dry on skin, may cause skin reddening. Wash off of skin with water before drying. Breathing may cause irritation of respiratory tract. Wear breathing protection and protective clothing.

Germ cell mutagenicity – No data available.

Carcinogenicity:

Chemical	ACGIH	NTP	OSHA	ACGIH
Titanium Dioxide (13463-67-7)	2B	N	N	N
Melamine (108-78-1)	3	N	N	N

IARC:

Titanium Dioxide – respirable form : Group 2B: Possibly carcinogenic to humans.

(a) Although IARC has classified titanium dioxide as a possible carcinogenic to humans (2B), their summary concludes**: No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paints.**

(b) OSHA, NTP, and ACGIH do not classify titanium dioxide as a carcinogen. However, under 29CFR 1910.1200 the SDS must report that titanium dioxide has produced apparent carcinogenic effects in rats in laboratory studies. See additional information below.

Note : By analogy -Normal application procedures for this product pose no hazard as to the release of respirable titanium dioxide dust, but grinding or sanding dried films of this product may yield respirable titanium dioxide. See section 8 above.

Melamine – Group 3: Not classifiable as a human carcinogen.

(a) Not listed as a carcinogen by the NTP, OSHA, or ACGIH. However, under 29CFR 1910.1200 the SDS must report that melamine has produced apparent carcinogenic and reproductive effects in specific animals in laboratory studies from ingestion.

Reproductive toxicity:
No chemicals present in the product are known to cause fertility issues.

Specific organ toxicity – single exposure – Eyes, skin. Wear protection.

Specific organ toxicity – repeated exposure – Respiratory tract.

Aspiration hazard – No data available.

Additional Information: See excerpts from TiO2 studies at end of sec 16 below**.** See section 8 of this document for proper application and remediation protection.

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12. ECOLOGICAL INFORMATION

12.1 Toxicity

Melamine - Acute EC 50 33600000 micrograms/L Daphnia Magna fresh water 48hr
Pentaerythritol – Acute LC50>1000000 micrograms/L Fundus heteroclitus marine 96hr
Other aquatic invertebrates No data available.

Toxicity of finished product - No data available.

Conclusions drawn from relevant literature and documentation from similar products.

12.2 Persistence and degradability – Polymer component not readily biodegradable. Elimination by activated sludge. Separation by flocculation is also possible.

12.3 Bioaccumulation potential – Low - No adverse effects expected. Clean up spills.

12.4 Mobility in soil – No adverse effects expected. Clean up spills.

12.5 Results of PBT and vPvP assessment – Not required. Not conducted.

12.6 Other adverse effects – No data available

13. DISPOSAL CONSIDERATIONS

Product: Liquid - Collect and reclaim. Dispose of in sealed containers at licensed waste disposal contractor or site.
Dried product – May be disposable as non hazardous solid waste. Check and follow local disposal regulations.

Contaminated packaging – Empty containers may retain product residue and should be handled accordingly. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use containers.

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14. TRANSPORT INFORMATION

DOT (US) – Not dangerous goods
IMDG – Not dangerous goods
IATA – Not dangerous goods

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15. REGULATORY INFORMATION

SARA 302 Components – No chemicals in this product are subject to the reporting requirements of SARA Title III, section 302

SARA 313 Components – This product does not contain any chemical components with known CAS numbers that exceed the threshold (DeMinimis) reporting levels established by SARA Title III, section 313

SARA 311/312 – Chronic health hazard

Massachussetts, Pennsylvania, New Jersey Right to Know Components:

Melamine	CAS # **108-78-1**
Titanium dioxide	CAS # 13463-67-7

California Prop. 65

WARNING! This product contains a chemical known to the state of California

to cause cancer in respirable form. Titanium dioxide.

This product contains no chemicals known by the State of California to cause birth defects or any other reproductive harm.

WHMIS – D2A – Titanium Dioxide. Carcinogen as respirable dust.

IARC – Group 2B – Titanium Dioxide . Possible human carcinogen – as respirable dust.

Group 3 – Melamine - Ingestion of has produced apparent carcinogenic and reproductive effects

in specific animals in laboratory studies.

RTECS # : Titanium Dioxide - XR 2275000

Melamine OS0700000

HAPS No HAPS are present in this product at reportable levels.

REACH - Titanium dioxide included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation(EC) No. 1907/2006(REACH) – Respirable form.

CLEAN WATER ACT – Section 311 lists phosphorous as a hazardous substance, which if discharged into or upon water, will present an imminent and substantial danger to public welfare. Spills of >= 5000 pounds of phosphorous (approx. 2,000,000 pounds of Flame Seal FX950) must be reported to the National Response Center @ 1-800-424-8802 .

16. OTHER INFORMATION

Full text of H-statements referred to under sections 2 and 3

H303 : 5	May be harmful if swallowed.
H320 : 2B	Causes eye irritation.
H316 : 3	Causes mild skin irritation.
H303 : 5	May be harmful if inhaled.
H413: 4 *	May cause long lasting harmful effects to aquatic life

Hazard pictograms not required per Tables 3.1.3, 3.1.3.5, 3.2.5, 3.2.5.1, 3.3.5, 3.3.5.1, 4.1.6 of the GHS Classification and Labeling of Chemicals Sixth Revised Edition.

*The quantity of aquatic toxin leachable from this product is well below deminimus values, but the caution is included as an environmentally responsible measure. However unlikely, large spills, or even small spills in restricted environments, could affect the aquatic life. Keep product out of drains, sewers, run off areas and waterways. Report substantial spills to local authorities.

Hazard conclusions drawn from relevant literature, SDSs, and documentation from similar products.

EPA

This product meets all qualifications for a "treated article" under U.S. 40 CFR 152.25(a) and European Regulation (EC) No 1907/2006, and is thereby exempt from "preservative" labeling and disclosure requirements. Appropriate hazards are included in this document.

HMIS Rating

Health hazard	1
Chronic Health Hazard	*
Flammability	0
Physical Hazard	0

NFPA

Health hazard	1
Fire hazard	0
Reactivity hazard	0

Titanium Dioxide Studies: In a paper covering numerous multinational toxicology and epidemiology

studies published Aug 1, 2005 the consensus was that "In all the studies the overall conclusion was the same: 'The results of the studies do not suggest a carcinogenic effect of TiO_2 dust on the human lung'.

In February 2006, IARC re-evaluated Titanium dioxide as pertaining to Group 2B: "possibly carcinogenic to humans", based upon inadequate evidence in humans and sufficient evidence in experimental animals for the carcinogenicity of titanium dioxide. IARC evaluation guidelines consider the generation of tumors, in 2 different studies within the same animal species, to be adequate criteria for an assessment of sufficient evidence.

The conclusions of several epidemiology studies on more than 20000 TiO2 industry workers in Europe and the USA did not suggest a carcinogenic effect of TiO2 **dust** on the human lung. Mortality from other chronic diseases, including other respiratory diseases was also not associated with exposure to TiO2 dust.

Based upon currently available study results, the current scientific consensus is that titanium dioxide dust will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.

Combining the above studies and IARC conclusions it follows that Titanium dioxide and melamine bound within a carrier, such as a latex paint, should pose no elevated health risks to properly protected application personnel or to people living or working in the end environments in which this type of product is applied. Remediation can cause potential health risks and may require special precautions. See section 8 for precautions.

The information in this document is based on the present state of Flame Seal Products' knowledge and the availability of SDSs of the actual raw materials used in the product. It is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantees to the properties of the product. Flame Seal Products shall not be held liable for any damage from handling or from contact with the above product.

Preparation Information
Flame Seal Products
713-668-4291
SDS v 1.0
Date : 5/09/2018