

SAFETY DATA SHEET



Date of Issue/Date of Revision: September 30, 2015

Version 1

SECTION 1. IDENTIFICATION

Product Name : Intumescent Fire Retardant Paint and Tints
Product Code : 2020A
Other Means of Identification : Not Available
Product Type : Liquid

Relevant Identified uses of the substance or mixture and uses advised against

Product Use : Industrial applications.
Use of the substance/
Mixture : Coating. Paints, Painting-related materials
Use advised against : Not Applicable
Supplier : Flame Control Coatings
4120 Hyde Park Boulevard
Niagara Falls, NY 14305
Emergency Telephone Number : 800-535-5053
352-323-3500 (International)
Technical Phone Number : 716-282-1399 (8 am - 5 pm EST)

SECTION 2. Hazards Identification

OSHA/HCS Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the Substance or mixture : CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 13%

GHS Label Elements



Hazard Pictograms :
Signal Word : Warning
Hazard Statements : Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe vapor.
Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention.
Storage : Store locked up.

SECTION 2. Hazards Identification (Con't)

- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental Label Elements** : Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.
- Hazards not Otherwise Classified** : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3. Composition/Information on Ingredients

- Substance/Mixture** : Mixture
- Product name** : Intumescent Fire Retardant Paint and Tints

Ingredient Name	%	CAS Number
Pentaerythritol	5 - 10	115-77-5
Titanium Dioxide	3 - 7	13463-67-7
Ethanediol	0.1 - 1	107-21-1

SUB codes represent substances without registered CAS numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

SECTION 4. First Aid Measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occurs during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of Necessary First Aid Measures

- Eye Contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin Contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most Important Symptoms/Effects, Acute and Delayed**Potential Acute Health Effects**

- Eye Contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.

SECTION 4. First Aid Measures (Con't)

Skin Contact : Defatting to the skin. May cause skin dryness and irritation

Ingestion : No known significant effects or critical hazards.

Over-Exposure Signs/Symptoms

Eye Contact : No specific data.

Inhalation : No specific data.

Skin Contact : Adverse symptoms may include the following:

Irritation

Dryness

Cracking

Ingestion : No specific data

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary

Notes to Physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific Treatments : No specific treatment

Protection of First-Aiders : No action shall be taken involving any person risk or without suitable training. If may be dangerous to the person providing aid to give mouth- to-mouth resuscitation.

See toxicological information (Section 11)

SECTION 5. Fire-Fighting Measures**Extinguishing Media**

Suitable Extinguishing Media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media : None known.

Specific Hazards Arising From the Chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous Thermal Decomposition products : Decomposition products may include the following materials:

Carbon Dioxide

Nitrogen Oxides

Carbon Monoxide

Metal Oxide/Oxides

Special Protective Actions for Fire-Fighters : Promptly isolate the scent by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special Protective Equipment for Fire-Fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel : No action shall be taken involving any personal risk or with suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

SECTION 6. Accidental Release Measures

- For Emergency Responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "for non-emergency personnel."
- Environmental Precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Material for Containment and Cleaning Up

- Small Spills** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large Spills** : Stop leak if with risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7. Handling and Storage

- Conditions for Safe Storage** : Do not store below the following temperatures: 5°C (41°F). Store in accordance including any with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. Exposure Controls/Personal Protection**Control Parameters****Occupational Exposure Limits**

Ingredient Name	Exposure Limit
Pentaerythritol	OSHA PEL (United States, 2/2013) TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total Dust ACGIH TLV (United States, 4/2014) TWA: 10 mg/m ³ 8 hours
Titanium Dioxide	OSHA PEL (United States, 2/2013) TWA: 15 mg/m ³ 8 hours. Form: Total Dust ACGIH TLV (United States, 4/2014) TWA: 10 mg/m ³ 8 hours
Ethanediol	ACGIH TLV (United States, 4/2014) C: 100 mg/m ³ From: Aerosol

SECTION 8. Exposure Controls/Personal Protection (Con't)**Key to Abbreviations**

A = Acceptable Maximum Peak

ACGIH = American Conference of Governmental Industrial Hygienists

C = Ceiling Limit

F = Fume

IPEL = Internal Permissible Exposure Limited

OSHA = Occupational Safety and Health Administration

R = Respirable

Z = OSHA 29CFR 1910, 1200 Subpart Z - Toxic and Hazardous Substances

S = Potential Skin Absorption

SR = Respiratory Sensitization

SS = Skin Sensitization

STEL = Short Term Exposure Limit Values

TD = Total Dust

TLV = Threshold Limit Value

TWA = Time Weighted Average

Consult Local Authorities for Acceptable Exposure Limits

- Recommended Monitoring Procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Appropriate Engineering Controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental Exposure** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual Protection Measures**
- Hygiene Measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/Face Protection** : Safety glasses with side shields.
- Skin Protection**
- Hand Protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body Protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling the product.
- Other Skin Protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 8. Exposure Controls/Personal Protection (Con't)

Respiratory Protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

SECTION 9. Physical and Chemical Properties**Appearance**

Physical State	: Liquid
Color	: White
Odor	: Mild Odor
Odor Threshold	: Not Available
pH	: 8.0 to 11.5
Melting Point	: Not Available
Boiling Point	: 100°C (>200°F)
Flash Point	: Not Available
Material Supports Combustion	: Yes
Auto-Ignition Temperature	: Not Available
Decomposition Temperature	: Not Available
Flammability (Solid, Gas)	: Not Available
Lower and Upper Explosive (Flammable) Limits	: Not Available
Evaporation Rate	: 0.34 (Butyl Acetate = 1)
Vapor Pressure	: 2.3 kPa (17.4 mm Hg) (Room Temperature)
Vapor Density	: >1 (Air = 1)
Relative Density	: 1.3
Density	: 10.85 lb/gal
Solubility in Water	: Dilutable
Partition Co-efficient: N-Octanol/Water	: Not Available
Viscosity	: Kinematic [40°C (104°F)]: >0.21 cm ² /s (>21 cSt)
% Volatile (volume)	: 54
% Solid (w/w)	: 62
Coating VOC	: 49 g/L
Material VOC	: 24 g/L

SECTION 10. Stability and Reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical Stability	: The product is stable
Possibility of Hazardous Reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in Sections 7 and 8.
Incompatible Materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, and strong acids
Hazardous Decomposition	: Decomposition products may include the following materials: carbon Products monoxide, carbon dioxide, smoke, oxides of nitrogen.

SECTION 11. Toxicological Information**Information on toxicological Effects****Acute Toxicity**

Product/Ingredient Name	Results	Species	Dose	Exposure
Pentaerythritol	LD50 Oral	Rat	18500 mg/kg	-
Titanium Dioxide	LD50 Oral	Rat	>10 g/kg	-
Ethanediol	LD50 Dermal	Rabbit	9.53 g/kg	-
	LD50 Oral	Rat	4700 mg/kg	-

Conclusion/Summary : There is no data available on the mixture itself.

Irritation/Corrosion**Conclusion/Summary**

Skin : There is no data available on the mixture itself.

Eyes : There is no data available on the mixture itself.

Respiratory : There is no data available on the mixture itself.

Sensitization**Conclusion/Summary**

Skin : There is no data available on the mixture itself.

Respiratory : There is no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There is no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There is no data available on the mixture itself.

Classification

Product/Ingredient Name	OSHA	IARC	NTP
Titanium Dioxide	-	2B	-

SECTION 11. Toxicological Information (Con't)

Carcinogen Classification Code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; reasonably anticipated to be a human carcinogen

OSHA: +

Not Listed/No Regulated: -

Reproductive Toxicity

Conclusion/Summary : There is no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There is no data available on the mixture itself.

Specific Target Organ Toxicity (Single Exposure) : Not available

Specific Target Organ Toxicity (Repeated Exposure) :

Product/Ingredient Name	Category
Ethenediol	Category 2

Target Organs : Contains materials which may cause damage to the following organs: kidneys, heart, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration Hazard : Not available.

Information on the likely routes of exposure

Potential Acute Health Effects

Eye Contact : No know significant effects or critical hazards.

Inhalation : No know significant effects or critical hazards.

Skin Contact : Defatting to the skin. May cause skin dryness and irritation

Ingestion : No know significant effects or critical hazards.

Over-Exposure Signs/Symptoms

Eye Contact : No specific data.

Inhalation : No specific data.

Skin Contact : Adverse symptoms may include the following:
Irritation
Dryness
Cracking

Ingestion : No specific data.

Delayed and Immediate Effects and Also Chronic Effects From Short and Long Term Exposure

Conclusion/Summary : There is no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

SECTION 11. Toxicological Information (Con't)**Short Term Exposure**

Potential Immediate Effects : There is no data available on the mixture itself.

Potential Delayed Effects : There is no data available on the mixture itself.

Long Term Exposure

Potential Immediate Effects : There is no data available on the mixture itself.

Potential Delayed Effects : There is no data available on the mixture itself.

Potential Chronic Health Effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental Effects : No known significant effects or critical hazards.

Fertility Effects : No known significant effects or critical hazards.

Numerical Measures of Toxicity**Acute Toxicity Estimates**

Route	ATE Value
Oral	8750.6 mg/kg

SECTION 12. Ecological Information**Toxicity**

Product/Ingredient Name	Result	Species	Exposure
Titanium Dioxide	Acute LC50 >100 mg/l Fresh Water	Daphnia - Daphnia Magna	48 hours

Persistence and Degradability : Not available

Bioaccumulative Potential

Product/Ingredient Name	Log Pow	BCF	Potential
Pentaerythritol	-1.69	1.26	low
Ethenediol	-1.36	-	low

Mobility in Soil

Soil/Water Partition Coefficient (Koc) : Not available

SECTION 13. Disposal Considerations

Disposal Methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PRESONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental Release Measures.

SECTION 14. Transport Information

	DOT	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class(es)	-	-	-
Packing Group	-	-	-
Environmental Hazards	No	No	No
Marine Pollutant Substances	Not Applicable	Not Applicable	Not Applicable

Additional Information

DOT : None Identified

IMDG : None Identified

IATA : None Identified

Special Precautions for User : Transport with user’s premises: always transport in closed containers that are upright and secure. Ensure that person transporting the product know what to do in the event of an accident or spillage.

SECTION 15. Regulatory Information

United States Inventory (TSCA 8b) : All components are listed or exempted

Australia Inventory (AICS) : At least one component is not listed.

Canada Inventory (DSL) : All components are listed or exempted

China Inventory (IECSC) : At least one component is not listed.

Europe Inventory (REACH) : Please contact your supplier for information on the inventory status of this material

SECTION 15. Regulatory Information (Con't)

Japan Inventory (ENCS) : At least one component is not listed.
 Korea Inventory (KECI) : At least one component is not listed.
 New Zealand (NZIoC) : At least one component is not listed.
 Philippines Inventory (PICCS) : At least one component is not listed.

Untied States

SARA 302/304

SARA 3-4 RQ : Not applicable

Composition/Information on Ingredients

No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/Information on Ingredients

Product/Ingredient Name	Fire Hazard	Sudden Release Of Pressure	Reactive	Immediate (Acute) Health Hazard	Delayed (Chronic) Health Hazard
Pentaerythritol	Yes	No	No	No	No
Titanium Dioxide	No	No	No	No	Yes
Ethanediol	No	No	No	Yes	Yes

SARA 313

Chemical Name

CAS Number

Concentration

Supplier Notification : Ethanediol 107-21-1 0.1 - 1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

SECTION 16. Other Information

Hazardous Material Information System (U.S.A.)

Health: 2 * Flammability: 1 Physical Hazards: 0

(*) Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is registered mark of the National Paint & Coatings Association (NPCA).

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health: 2 Flammability: 1 Instability: 0

Date Previous Issue : No previous validation

Organization that Prepared the SDS : Flame Control Coatings

SECTION 16. Other Information (Con't)**Key to Abbreviations**

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labeling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution from ships, 1973 as modified by the protocol of 1978. ("Marpol" = Marine Pollution).

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by Flame Control Coatings and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.