



ForceField® FireGuard™ E-84 Intumescent Paint

MATERIAL SAFETY DATA SHEET

COMPLIES WITH USDL SAFETY AND HEALTH REGULATIONS 29CFR1910.1200

SECTION 1 COMPANY AND PRODUCT IDENTIFICATION

Product Name: ForceField FireGuard E-84 Intumescent Paint Date Printed: 11/28/2011
Product Use/Class: Intumescent Paint Product ID: F FGDE-84
Supplier: Shield Industries, Inc. Manufacturer: Shield Industries, Inc.
Address: 131 Smokehill Lane Address: 131 Smokehill Lane
Woodstock, GA 30188 - USA Woodstock, GA 30188 - USA
Telephone: 770-517-6869 24 Hour Emergency Hotline: 800-535-5053

SECTION 2 COMPOSITION/INFORMATION ON COMPONENTS

<u>COMPONENTS</u>	<u>CAS NUMBER</u>	<u>%</u>
Titanium dioxide	13463-67-7	5-20
Silicon dioxide, amorphous	7631-86-9	0-5
2,4,6-Triamino-1,3,5-triazine	108-78-1	2-10
Pentaerythritol	115-77-5	2-10
2-amino-2-methyl-1-propanol	124-68-5	0-2

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical Properties: Viscous, opaque, white to off-white emulsion/pH = 8.0-9.0

IMMEDIATE HEALTH EFFECTS

Eyes: May cause irritation to eyes.

Skin: Prolonged or repeated contact may cause irritation to skin.

Inhalation: Inhalation may cause irritation of upper respiratory passages.

Ingestion: May be harmful if ingested.

HAZARDS IDENTIFICATION CONT'D

PRIMARY ROUTES OF ENTRY: Eyes, skin contact/absorption, inhalation or ingestion.

SIGNS/SYMPTOMS OF OVEREXPOSURE: Gastrointestinal irritation (nausea, vomiting, diarrhea), and/or irritation to the skin, eyes, nose, throat, and respiratory tract.

TARGET ORGAN EFFECTS: Irritation of the skin and eyes. Irritation of lungs possible if mists/aerosols are inhaled.

REPRODUCTIVE/DEVELOPMENTAL INFORMATION: No data available.

CARCINOGENIC INFORMATION: The following components of this material are listed as carcinogens by IARC, NTP or OSHA:

	<u>IARC</u>
Titanium dioxide	2B (possibly carcinogenic to humans)
Silicon dioxide, amorphous	3 (not classifiable for humans)
2,4,6-Triamino-1,3,5-triazine	3 (not classifiable for humans)

LONG TERM EFFECTS: No data available.

SECTION 4 FIRST AID MEASURES

EYES: Flush eyes with water for at least 15 minutes. If irritation persists, consult a physician.

SKIN: If irritation occurs, flush skin with water for at least 15 minutes. If irritation persists, consult a physician

INHALATION: If symptoms of overexposure develop, remove to fresh air. If symptoms persist, consult a physician.

INGESTION: Give 8 to 16 ounces of water to dilute substance. Consult a physician or local Poison Control Center. Never give anything by mouth to an unconscious person.

SECTION 5 FIRE FIGHTING MEASURES

FLASHPOINT (° Fahrenheit): > 200° F PMCC.

EXPLOSIVE LIMITS: No data available.

AUTOIGNITION TEMPERATURE: No data available.

HAZARDOUS PRODUCTS OF COMBUSTION: In the event of fire, decomposition products could include: Oxides of carbon, nitrogen, phosphorus, silicon and titanium, as well as hydrogen cyanide, ammonia, aldehydes, and amines.

EXTINGUISHING MEDIA: Water spray, foam, dry chemical powder or carbon dioxide.

FIRE FIGHTING MEASURES CONT'D

FIRE FIGHTING INSTRUCTIONS: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

SECTION 6 ACCIDENTAL RELEASE MEASURES

SMALL SPILL: For small spills, soak up material with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

LARGE SPILL: Wear respirator and protective clothing as appropriate. Shut off source of leak if it is safe to do so. Dike and contain spilled material. Remove with vacuum trucks or pump to storage/salvage containers. Soak up residue with an absorbent such as clay, sand, or other suitable material. Flush area with water to remove trace residue.

SECTION 7 HANDLING AND STORAGE

HANDLING: Handle and open containers with care. Do not eat, drink, or smoke when handling this material. Do not swallow, or get into eyes or on clothing.

STORAGE: Store in a cool, well ventilated place away from incompatible materials. Do not store near an open flame, heat, or other source of ignition. Do not store below 32 degrees F.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE/FACE PROTECTION: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other types of safety glasses. Consult your safety representative.

SKIN PROTECTION: Wear rubber gloves (consult your safety representative). Wear impervious clothing and boots to prevent repeated or prolonged skin contact.

RESPIRATORY PROTECTION: If workplace exposure limits of product or any component are exceeded, a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (consult your safety representative). Engineering controls or administrative controls should be implemented to reduce exposure.

ENGINEERING CONTROLS: Provide sufficient mechanical ventilation (general and local exhaust) to maintain exposure below the level of overexposure from known, suspected or apparent adverse effects.

EXPOSURE LIMITS: (data shown is for components only)

<u>Ingredient</u>	<u>Exposure Limit</u>
Titanium dioxide	PEL (OSHA): 15 mg.m ³ 8hr TWA total dust TLV (ACGIH): 10 mg.m ³ 8hr &12hr TWA
Silicon dioxide, amorphous	PEL (OSHA): 6 mg/m ³ TWA total dust

	TLV (ACGIH): 10 mg/m ³ TWA total dust
2,4,6-Triamino-1,3,5-triazine	WEEL(AIHA): 10 mg/m ³ 8hr TWA inhalable fraction 5 mg/m ³ 8 hr TWA respirable fraction
Pentaerythritol	PEL (OSHA): 15 mg/m ³ TWA total dust 10 mg/m ³ TWA respirable fraction TLV (ACGIH): 10 mg/m ³ TWA
2-amino-2-methyl-1-propanol	No data available

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Viscous, opaque, white to off-white emulsion

pH: 8.0 – 9.0

VAPOR PRESSURE: No data available.

VAPOR DENSITY: No data available.

BOILING POINT: No data available.

SOLUBILITY IN WATER: Dispersible.

EVAPORATION RATE: (water = 1) approximately 1

DENSITY: 1.27 g/mL +/- 0.02

VOC LEVEL: <0.3% (weight/weight)

SOLIDS: 52-55%

SECTION 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

STABILITY AND REACTIVITY CONT'D

CONDITIONS TO AVOID: None with proper storing and handling.

MATERIALS TO AVOID: Strong acids.

HAZARDOUS DECOMPOSITION: Upon combustion, decomposition products could include: Oxides of carbon, nitrogen, phosphorus, silicon and titanium, as well as hydrogen cyanide, ammonia, aldehydes, and amines.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE: Skin absorption, eye contact, inhalation, and ingestion.

CARCINOGENITY: The following components of this material are listed as carcinogens by IARC, NTP or OSHA:

	<u>IARC</u>
Titanium dioxide	2B (possibly carcinogenic to humans)
Silicon dioxide, amorphous	3 (not classifiable for humans)
2,4,6-Triamino-1,3,5-triazine	3 (not classifiable for humans)

TERATOGENICITY, MUTAGENICITY, OR OTHER REPRODUCTIVE EFFECTS:

Titanium dioxide:

Oral ALD > 24,000 mg/kg (rat)
Dermal ALD >10,000 mg/kg (rabbit)
Inhalation ALC (4 hr) > 6.82 mg/L (rat)
Non-mutagenic in AMES test

Silicon dioxide, amorphous:

Oral LD50 >10,000 mg/kg (rat)
Dermal LD50 >5000 mg/kg (rabbit)

2,4,6-Triamino-1,3,5-triazine:

Oral LD50 3161 mg/kg (rat)
Inhalation LC50 3248 mg/m³ (8 hr, rat)
Non-mutagenic for bacteria and/or yeast

Pentaerythritol:

Oral LD50 >5110 mg/kg (rat)
Oral LD50 25,500 mg/kg (rat)
Inhalation LC50 4 hr NOEL >11 mg/L (rat)
Non-mutagenic in AMES test for salmonella typhimurium

2-amino-2-methyl-1-propanol:

Oral LD50 2900 mg/kg (rabbit)
Dermal LD50 >2000 mg/kg (rabbit)
Mutagenicity No data available

CONDITIONS AGGRAVATED BY EXPOSURE: No data available.

SYNERGISTIC MATERIALS: No data available.

SECTION 12 ECOLOGICAL INFORMATION

Titanium dioxide:

LC-50 96 hr >1000 mg/L (fathead minnow)

Silicon dioxide, amorphous:

No data available

2,4,6-Triamino-1,3,5-triazine:

EC50 48 hrs >2000 mg/L (Daphnia magna)

EC50 96 hrs 940 mg/L (algae)

LC50 96 hrs >3000 mg/L (fish)

Pentaerythritol:

EC50 24 hr 38,900 mg/L (Daphnia magna)

LC0 48 hr >5000 mg/L (fish)

2-amino-2-methyl-1-propanol:

LC50 96 hr >100 mg/L (fish)

EC50 48 hr >100 mg/L (Daphnia magna)

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL INFORMATION: Dispose in accordance with all applicable federal, state, and local regulations.

RCRA INFORMATION: If this material becomes a waste, it would not be considered hazardous under 40CFR261.

SECTION 14 TRANSPORT INFORMATION

DOT INFORMATION – 49CFR172.101: Not regulated, non-hazardous

REPORTABLE QUANTITY– 49CFR172.101: None

SECTION 15 REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA Status: The intentional components of this product are listed.

CERCLA Reportable Quantities – 40CFR355 APPENDIX A: None.

SARA 313 – 40CFR372.65: None.

STATE AND LOCAL REGULATIONS

CALIFORNIA PROPOSITION 65:

None

MASSACHUSETTS:

None

NEW JERSEY:

Titanium dioxide, CAS 13463-67-7

Pentaerythritol, CAS 115-77-5

2-amino-2-methyl-1-propanol, CAS124-68-5

PENNSYLVANIA:

Titanium dioxide, CAS 13463-67-7

Silicon dioxide, amorphous, CAS 7631-86-9

2,4,6-Triamino-1,3,5-triazine, CAS 108-78-1

Pentaerythritol, CAS 115-77-5

2-amino-2-methyl-1-propanol, CAS124-68-5

SECTION 16 OTHER INFORMATION

HMIS RATING: HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0

Personal protection rating to be supplied by user depending on use conditions.

PREPARATION INFORMATION:

DATE CREATED: 10/21/2010

LAST REVISION: 11/28/2011

CREATED/REVISED BY: R. Lasnik

LEGEND: N.A. – Not Applicable

N.E. – Not Established

N.D. – Not Determined

T.M. – Test Method

This information relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

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