

FLIGHT SHIELD

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FlightShield Reactive Polymer
SYNONYMS: none
PRODUCT CODES: NPD-9-6BL4

MANUFACTURER:
DIVISION: FlightShield Inc.
ADDRESS: 65 North River Lane Suite 201
Geneva IL. 60134
EMERGENCY PHONE: 800-798-3206
CHEMTREC PHONE:

CHEMICAL NAME: N/A
CHEMICAL FAMILY: Silanes
CHEMICAL FORMULA: n/a

PRODUCT USE: Protective Coating for Aircraft
PREPARED BY: ALD

SECTION 1 NOTES:

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:

Proprietary Mixture of Methoxy Silanes, silicas, flouropolmers, and reactive diluents.

SECTION 2 NOTES: Proprietary nanodispersion of silica in silane/siloxane blend in a moisture reactive diluent.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Respiratory tract irritation, skin irritation, eye irritation, central nervous system depression. Flammable liquid and vapor. Vapor may cause flash fire. May react on contact with water.

ROUTES OF ENTRY:

POTENTIAL HEALTH EFFECTS

EYES:

Short Term Exposure: Irritation, burns, tearing, blurred vision.
Long Term Exposure: Same as effects reported in short term exposure

SKIN:

Short Term Exposure: Irritation
Long Term Exposure: Same as effects reported in short term exposure

INGESTION:

Short Term Exposure: Nausea, vomiting, diarrhea, headache.
Long Term Exposure: Same as effects reported in short term exposure.

INHALATION:

Short Term Exposure: Irritation, nausea, vomiting, headache, symptoms of drunkenness, lung congestion.
Long Term Exposure: Lung damage, kidney damage, liver damage.

CARCINOGENICITY

OSHA: ACGIH: NTP: IARC:
OTHER:

SECTION 3 NOTES: None of the components in this material are listed as carcinogens by IARC, NTP, ACGH, or OSHA.

SECTION 4: FIRST AID MEASURES

EYES: Flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

INGESTION: If a large amount is swallowed, seek medical attention.

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, : LOWER: 1.3% UPPER: 23%
(% BY VOLUME)

FLASH POINT: Closed Cup: 38 C (100 F) Closed Cup

EXTINGUISHING MEDIA: Regular dry chemical, carbon dioxide, water, regular foam.

LARGE FIRE: Use regular foam or flood with fine water spray.

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing and positive pressure breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Fire hazard. The vapor is heavier than the air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive above flash point.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition or combustion products: Oxides of carbon, silica.

NFPA HAZARD CLASSIFICATION

HEALTH: 2 FLAMMABILITY: 2 REACTIVITY: 1

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water inside container.

SMALL SPILLS: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

LARGE SPILLS: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:

STORAGE: Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Store in a tightly closed container. Store under an inert atmosphere. Grounding and bonding required. Keep separated from incompatible substances.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTION: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves, neoprene or Viton.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear, Colorless

ODOR: Fruity. Alcohol odor

PHYSICAL STATE: Liquid

pH AS SUPPLIED: N/A

BOILING POINT: 165-169C (329-336 F)

MELTING POINT: 85F

VAPOR PRESSURE (2 mmHg): @ 20C

VAPOR DENSITY: (air=1) 7.2

SPECIFIC GRAVITY (H₂O = 1): 0.920 - 0.950

EVAPORATION RATE: 0.3

VISCOSITY: waxy solid @ 20C

BASIS (=1):

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)

SOLUBILITY IN WATER: Miscible: Soluble: Alcohol, Ether. Slightly soluble: Benzene

FLASH POINT: 100F (38C)

PERCENT SOLIDS BY WEIGHT: No data

PERCENT VOLATILE: BY VOLUME: No data

FLAMMABLE LIMITS in AIR: Flammable class (OSHA): IC

LOWER: 1.3%

UPPER: 23%

VOLATILE ORGANIC COMPOUNDS (VOC): No data

WITHOUT WATER: LBS/GAL:

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Contact with water or moist air may form flammable gases or vapors (ethyl alcohol).

CONDITIONS TO AVOID (STABILITY): Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Keep out of water supplies and sewers.

INCOMPATIBILITY (MATERIAL TO AVOID): Acids, bases, oxidizing materials and combustible materials.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Irritation Data: 3000 ppm eyes-human; 500 mg/24 hr skin-rabbit moderate; 100 mg eyes-rabbit mild; 500 mg/24 eyes-rabbit mild; 2500 ppm/2 hr eyes-guinea pig severe.

Toxicity: 30 gm/m3 inhalation-mouse LC50; 6300 ul/kg skin-rabbit LD50; 6270 mg/kg oral-rat LD50.

Acute Toxicity Level: Moderately toxic: inhalation; Slightly toxic; dermal absorption, ingestion.

Target organs: Central nervous system

Medical condition aggravated by exposure: Blood system disorders, eye disorders, kidney disorders, liver disorders, respiratory disorders, skin disorders and allergies.

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Invertebrae Toxicity: 4000 ug/L 15 months LETH (Mortality) water flea (*Daphnia magna*)

Algal Toxicity: 1000 ug/L 30 months LETH (Mortality) Green algae (*Chlorella vulgaris*)

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Dispose of in accordance with all applicable regulations. Subject to disposal regulations: US EPA 40 CFR 262. Hazardous waste numbers: D001. Dispose in accordance with all applicable regulations.

RCRA HAZARD CLASS: It is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

DOT Classification:

Proper Shipping Name: Class 3. Combustible Liquid with flash point greater than 100F.

UNNA 1993

Packing Group III

Hazard Class or Division: 3

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): The intentional ingredients of this product are listed.

SARA Title III SARA Section 311/312 Hazardous categories (40 CFR 370 Subparts B and C)

Acute: Yes

Cronic: No

Fire: Yes

Reactivity: Yes

Sudden Release: No

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:**PREPARATION INFORMATION:****DISCLAIMER:**

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance o need that the information is current, applicable, and suitable to their circumstances.