GHS SAFETY DATA SHEET (SDS)

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Part #700 – RAL5003 Sapphire Blue Gel Coat

FIBRE GLAST DEVELOPMENTS CORP.
385 CARR DRIVE
BROOKVILLE, OH 45309

TELEPHONE: (937) 833-5200
FAX: (937) 833-6555
FOR CHEMICAL EMERGENCY CALL (801) 629-0667 24 HRS.

RECOMMENDED USE: Industrial chemical

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Flammable liquids	: Category 2
Combustible Dust	:
Skin irritation	: Category 2
Eye irritation	: Category 2A
Skin sensitization	: Category 1
Carcinogenicity	: Category 1A
Reproductive toxicity	: Category 2
Specific target organ systemic toxicity – single exposure	: Category 3 (Respiratory system)
Specific target organ toxicity – repeated exposure (Inhalation)	: Category 1 (Auditory system)
GHS Label Element Hazard pictograms	: 
Signal word	: Danger
Hazard statements	: Highly flammable liquid and vapor. May form combustible dust concentrations in air Causes skin irritation May cause an allergic skin reaction. Causes serious eye irritation.

May cause respiratory irritation.
May cause cancer.
Suspected of damaging fertility.
Causes damage to organs (Auditory system) through prolonged or repeated exposure if inhaled.

Precautionary statement

Prevention : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep dust/air mixtures away from ignition sources.
Hazardous polymerization can occur under certain conditions.
Avoid excessive heat, direct sunlight, peroxides, and other polymerization catalysts. Store in a cool place and maintain proper concentrations of inhibitor and oxygen.

Response : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage : Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal : Dispose of contents/container to an approved waste disposal plant.

Other hazards
Static Accumulating liquid
Hazardous polymerization may occur.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Substance/Mixture : Mixture

Chemical nature : Static Accumulator

Chemical nature : Defatter

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
STYRENE	100-42-5	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 STOT SE 3; H335 STOT RE 1; H372 Asp. Tox. 1; H304	30.00
SILICA AMORPHOUS (SIO2)	7631-86-9	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012)	25.00
TITANIUM DIOXIDE (TIO2)	13463-67-7	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012)	25.00
SILICA COLLOIDAL AMORPHOUS	112945-52-5	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012)	25.00
TALC	14807-96-6	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012)	25.00
SILICA COLLOIDAL	112926-00-8	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012)	25.00
METHYLMETHACRYLATE	80-62-6	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Skin Sens. 1B; H317 STOT SE 3; H335	9.90
SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC	64742-95-6	Flam. Liq. 3; H226 STOT SE 3; H335, H336 Asp. Tox. 1; H304	3.00
C.I. PIGMENT GREEN 7 C.I. 74260	1328-53-6	Comb Dust	3.00
BISMUTH VANADIUM OXIDE	14059-33-7	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012)	3.00

CARBON BLACK	1333-86-4	Comb Dust	2.00
QUARTZ / SAND	14808-60-7	Carc. 1A; H350 STOT RE 1; H372	0.90
COBALT 2-ETHYLHEXANOATE	136-52-7	Eye Irrit. 2A; H319 Skin Sens. 1A; H317 Repr. 2; H361f	0.90

SECTION 4 – FIRST AID MEASURES

General advice : Move out of dangerous area.
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
Keep patient warm and at rest.
If unconscious, place in recover position and seek medicaladvice.

In case of skin contact : Remove contaminated clothing. If irritation develops, getmedical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.

If swallowed : Obtain medical attention.
Do not give milk or alcoholic beverages.
Never give anything to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.

: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
Headache
Effects on memory
Loss of appetite
Shortness of breath
Confusion
Pain in the hands and feet
Difficulty in breathing
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause cancer.

Suspected of damaging fertility.
Causes damage to organs through prolonged or repeated exposure if inhaled.

Notes to physician : No hazards which require special first aid measures.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable Extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.
Organic dusts at sufficient concentration can form explosive mixtures in air.

Hazardous combustion products : Carbon dioxide (CO2)
Carbon monoxide
Hydrocarbons
Burning produces noxious and toxic fumes.

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire.

Special protective equipment for firefighters. : In the event of fire, wear self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE and DISPOSAL MEASURES

Personal precautions, protective equipment and emergency : Evacuate personnel to safe areas.
Remove all sources of ignition.

Procedures	Use personal protective equipment. Ensure adequate ventilation. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13)
Other information	: Comply with all applicable federal, state, and local regulations Suppress (knock down) gases/vapors/mists with a water spray jet.

SECTION 7 – STORAGE AND HANDLING

Advice on safe handling	: Open drum carefully as content may be under pressure. Avoid formation of aerosol. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapors/dust. Do not smoke. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Dispose of rinse water in accordance with local and national regulations. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure – obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Secondary operations, such as grinding and sanding, may product dust. Maintain good housekeeping. Do not permit dust layers to accumulate, for example, on floors, ledges, and equipment, in order to avoid any potential for dust explosion hazards. For further guidance on prevention of dust explosions, refer to National Fire Protection Association (NFPA) 654: "Standard for the Prevention of Fire and Dust Explosions, from the Manufacturing, Processing and Handling of Combustible Particulate Solids".
Conditions for safe storage	: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. No smoking. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basic
STYRENE	100-42-5	TWA	50 ppm 215 mg/m3	NIOSH REL
		ST	100 ppm 425 mg/m3	NIOSH REL
		TWA	100 ppm	OSHA Z-2
		CEIL	200 ppm	OSHA Z-2
		Peak	600 ppm	OSHA Z-2
		TWA	50 ppm 215 mg/m3	OSHA P0
		STEL	100 ppm 425 mg/m3	OSHA P0
		C	500 ppm	CAL PEL
		PEL	50 ppm 215 mg/m3	CAL PEL
		STEL	100 ppm 425 mg/m3	CAL PEL
		TWA	20 ppm	ACGIH
		STEL	40 ppm	ACGIH
SILICA AMORPHOUS (SIO2)	7631-86-9	TWA	20 Million particles per cubic foot Dust (Silica)	OSHA Z-3
		TWA	80 mg/m3 / %SiO2 Dust (Silica)	OSHA Z-3
		TWA	6 mg/m3 (Silica)	NIOSH REL
		PEL	6 mg/m3	CAL PEL
TITANIUM DIOXIDE (TIO2)	13463-67-7	TWA	15 mg/m3 Total dust	OSHA Z-1
		TWA	10 mg/m3 Total dust	OSHA P0
		PEL	10 mg/m3 Total dust (Titanium)	CAL PEL
		PEL	5 mg/m3 Respirable dust Fraction (Titanium)	CAL PEL
		TWA	10 mg/m3 (Titanium dioxide)	ACGIH
SILICA COLLOIDAL AMORPHOUS	112945-52-5	TWA	20 Million particles per cubic foot Dust (Silica)	OSHA Z-3
		TWA	80 mg/m3 / %SiO2 Dust (Silica)	OSHA Z-3
		TWA	6 mg//m3 (Silica)	NIOSH REL
		PEL	6 mg/m3	CAL PEL
TALC	14807-96-6	TWA	20 Million particles per cubic foot Dust	OSHA Z-3
		TWA	2 mg/m3 Respirable dust	OSHA P0

			fraction	
		TWA	2 mg/m3 Respirable	NIOSH REL
		PEL	2 mg/m3 Respirable dust	CAL PEL
		TWA	0.1 fibers per cubic centimeter	ACGIH
		TWA	2 mg/m3 Respirable fraction	ACGIH
SILICA COLLOIDAL	112926-00-8	TWA	6 mg/m3	OSHA P0
		TWA	20 Million particles per cubic foot Dust (Silica)	OSHA Z-3
		TWA	80 mgm3 / %SiO2 Dust (Silica)	OSHA Z-3
		TWA	6 mg/m3 (Silica)	NIOSH REL
		PEL	6 mg/m3	CAL PEL
METHYLMETHACRYLATE	80-62-6	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
		TWA	100 ppm 410 mg/m3	NIOSH REL
		TWA	100 ppm 410 mg/m3	OSHA Z-1
		TWA	100 ppm 410 mg/m3	OSHA P0
		PEL	50 ppm 205 mg/m3	CAL PEL
		STEL	100 ppm 410 mg/m3	CAL PEL
SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC	64742-95-6	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
		TWA	400 ppm 1,600 mg/m3	OSHA P0
C.I. PIGMENT GREEN 7 C.I. 74260	1328-53-6	TWA	1 mg/m3 (Copper)	NIOSH REL
BISMUTH VANADIUM OXIDE	14059-33-7	C	0.05 mg/m3 Dust (Vanadium)	NIOSH REL
		C	0.05 mg/m3 Fumes (Vanadium)	NIOSH REL
CARBON BLACK	1333-86-4	TWA	3 mg/m Inhalable fraction	ACGIH
		TWA	3.5 mg/m3	NIOSH REL
		TWA	3.5 mg/m3	OSHA Z-1
		TWA	3.5 mg/m3	OSHA P0
		PEL	3.5 mg/m3	CAL PEL
		TWA	0.1 mg/m3 (PAHs)	NIOSH REL
QUARTZ / SAND	14808-60-7	TWA	10 mg/m3 / %SiO2+2 Respirable	OSHA Z-3
		TWA	250 mppcf / %SiO2+5 Respirable	OSHA Z-
		TWA	.01 mg/m3 Respirable dust	OSHA P0

			Fraction	
		TWA	0.025 mg/m3 Respirable Fraction (Silica)	ACGIH
		TWA	0.05 mg/m3 Respirable dust (Silica)	NIOSH REL
		TWA	0.05 mg/m Respirable dust	OSHA Z-1

Hazardous components without workplace control parameters

Components	CAS-No.
COBALT 2-ETHYLHEXANOATE	136-52-7

Biological occupational exposure limits

Components	CAS-No.	Control Parameters	Biological specimen	Sampling time	Permissible concentration	Basis
STYRENE	100-42-5	Mandelic acid plus phenylglyoxlic acid	Urine	End of shift (As soon as possible after exposure ceases)	400 mg/g Creatinine	ZUS_A CGIHB
		Styrene	Urine	End of shift (As soon as possible after exposure ceases)	40 µg/l	ZUS_A CGIHB

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.
Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment

Respiratory protection : In the case of vapor formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:
Impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

	Discard gloves that show tears, pinholes, or signs of wear. Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	: Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: liquid
Color	: colored
Odor	: pungent
Odor Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Boiling point/boiling range	: 212.9 °F / 100.5 °C (1,013.25 hPa) Calculated Phase Transition Liquid/Gas
Flash point	: 20.3 °C Method: Seta closed cup
Evaporation rate	: > 1 Ethyl Ether = 1
Flammability (solid, gas)	: May form combustible dust concentrations in air (during processing).
Flammability (liquids)	: Static Accumulating liquid
Upper explosion limit	: Upper flammability limit 12.5%(V) Method: Calculated Explosive Limit
Lower explosion limit	: Lower flammability limit 1.1 %(V) Method: Calculated Explosive Limit
Vapor pressure	: 37.2 hPa (20 °C) Calculated Vapor Pressure
Relative vapor density	: > 1.0000 (Air = 1.0)
Relative density	: No data available
Density	: 1.078 g/cm3 (25 °C)
Solubility(ies)	
Water solubility	: insoluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Thermal decomposition	: No data available

Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: > 20.5 mm2/s (40 °C)
Oxidizing properties	: No data available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reaction	: Hazardous polymerization may occur. Vapors may for explosive mixture with air. This product does not present a dust explosion hazard as delivered. However, fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard.
Conditions to avoid	: Heat, flames and sparks. Exposure to air. Exposure to sunlight. Exposure to moisture
Incompatible materials	: Acids Aluminum Aluminum chloride Amines Bases Copper Copper alloys Halogens Iron chloride Metal salts Nitrates Reducing agents Strong alkalis Strong oxidizing agents UV light. Peroxides
Hazardous decomposition products	: Hydrocarbons Acetone Carbon dioxide (CO2) Carbon monoxide Nitrogen oxides (NOx) Sulphur oxides Carbon dioxide and carbon monoxide

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	: Inhalation Skin contact Eye contact Ingestion

Acute toxicity
Not classified based on available information.
Components

STYRENE:	
Acute oral toxicity	: LD50 Oral (Rat): > 2,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 11.8 mg/l, 2770 ppm Exposure time: 4 h Test atmosphere: vapor No observed adverse effect level (Humans): 100 ppm Exposure time: 7 h Test atmosphere: vapor
Acute dermal toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: No adverse effect has been observed in acute dermal toxicity tests.
SILICA AMORPHOUS (SIO2):	
Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	: LC50 (Rat): > 2.08 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: No adverse effect has been observed in acute inhalation toxicity tests.
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg
TITANIUM DIOXIDE (TIO2):	
Acute oral toxicity	: LD50 (Rat): > 24,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 6.82 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: Not classified as acutely toxic by inhalation under GHS.
Acute dermal toxicity	: LD50 (Rabbit): >10,000 mg/kg
SILICA COLLOIDAL AMORPHOUS:	
Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Assessment: Not classified as acutely toxic by dermal absorption under GHS
TALC:	
Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 423
SILICA COLLOIDAL:	
Acute oral toxicity	: LD50 (Rat): > 10,000 mg/kg
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg
METHYLMETHACRYLATE:	
Acute oral toxicity	: LD50 (Rat): 7,800 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 29.8 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

SOLVENT NAPTHA, PETROLEIUM LIGHT ARMOATIC:
Acute oral toxicity : LD50 (Rat): > 5,600 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 10,200 mg/m3
Exposure time: 4 h
Test atmosphere: vapor
Assessment: Not classified as acutely toxic by inhalation under GHS

Acute dermal toxicity : LD50 (Rabbit): > 4,000 mg/kg

C.I. PIGMENT GREEN 7 C.I. 74260:
Acute oral toxicity : LD50 (Rat): > 5 g/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402

BISMUTH VANADIUM OXIDE:
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.15 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

CARBON BLACK:
Acute oral toxicity : LD50 (Rat): 8,000 mg/kg

COBALT 2-ETHYLHEXANOATE:
Acute oral toxicity : LD50 (Rat, female): ca. 3, 129 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 10 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Assessment: Not classified as acutely toxic by inhalation under GHS.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation
Causes skin irritation
Product:
Remarks: May cause skin irritation and/or dermatitis. Individuals with direct skin contact with methyl methacrylate have experienced temporary loss of feeling and mild nerve damage in the fingers.

Result: Repeated exposure may cause skin dryness or cracking.

Components
STYRENE:
Species: Rabbit
Result: Irritating to skin.

Species: human skin
Result: No skin irritation

SILICA AMORPHOUS (SIO2):
Result: Slight, transient irritation

TITANIUM DIOXIDE (TIO2):
Result: Slight, transient irritation

SILICA COLLOIDAL AMORPHOUS:
Result: No skin irritation

TALC:
Species: reconstructed human epidermis (RhE)
Result: No skin irritation

SILICA COLLOIDAL:
Result: Slight, transient irritation

METHYLMETHACRYLATE:
Result: Irritating to skin.

SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC:
Result: Slight, transient irritation

Result: Repeated exposure may cause skin dryness or cracking.

C.I. PIGMENT GREEN 7 C.I. 74260:
Species: Rabbit
Result: No skin irritation

BISMUTH VANADIUM OXIDE:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

CARBON BLACK:
Species: Rabbit
Result: No skin irritation

QUARTZ / SAND:
Result: Slight, transient irritation

COBALT 2-ETHYLHEXANOATE:
Result: No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.
Product:
Remarks: Vapors may cause irritation to the eyes, respiratory system and the skin. Causes serious eye irritation.

Components:
STYRENE:
Result: Irritating to eyes.
Remarks: Vapor during processing may be irritating to the respiratory tract and to the eyes.

SILICA AMORPHOUS (SIO2):
Result: Slight, transient irritation

TITANIUM DIOXIDE (TIO2):
Result: Slight, transient irritation

SILICA COLLOIDAL AMORPHOUS:
Result: No eye irritation

TALC:
Species: Rabbit
Result: Slight, transient irritation
Method: OECD Test Guideline 405

SILICA COLLOIDAL:
Result: Slight, transient irritation

METHYLMETHACRYLATE:

Result: Slight, transient irritation
SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC:
Result: Slight, transient irritation

C.I. PIGMENT GREEN 7 C.I. 74260:
Species: Rabbit
Result: Slight, transient irritation
Method: OECD Test Guideline 405

BISMUTH VANADIUM OXIDE:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

CARBON BLACK:
Species: Rabbit
Result: No eye irritation

QUARTZ / SAND:
Result: Slight, transient irritation

COBALT 2-ETHYLHEXANOATE:
Species: Rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405

Respiratory or skin sensitization
Skin sensitization: May cause allergic skin reaction.
Respiratory sensitization: Not classified based on available information.
Components:
STYRENE:
Exposure routes: Skin contact
Species: Guinea pig
Assessment: Does not cause skin sensitization.
Result: negative

Exposure routes: inhalation (vapor)
Species: Humans
Assessment: Does not cause respiratory sensitization.
Result: negative

TALC:
Test Type: Maximization Test
Species: Guinea pig
Assessment: Did not cause sensitization on laboratory animals.
Method: OECD Test Guideline 406
Result: Did not cause sensitization on laboratory animals.

METHYLMETHACRYLATE:
Test Type: Local lymph node assay
Species: Mouse
Assessment: The product is a skin sensitizer, sub-category 1B.
Method: OECD Test Guideline 429

C.I PIGMENT GREEN 7 C.I. 74260:
Test Type: Local lymph node assay
Species: Mouse
Assessment: Did not cause sensitization on laboratory animals.
Method: OECD Test Guideline 429

BISMUTH VANADIUM OXIDE:
Test Type: Maximization Test
Species: Guinea pig
Did not cause sensitization on laboratory animals.
Method; OECD Test Guideline 406

CARBON BLACK:
Test Type: Buehler Test
Species: Guinea pig
Assessment: Does not cause skin sensitization
Method: OCD Test Guideline 406

COBALT 2-ETHYLHEXANOATE:
Test Type: Local lymph node assay
Species: Mouse
Assessment: The product is a skin sensitizer, sub-category 1A.
Method: OECD Test Guideline 429

Germ cell mutagenicity
Not classified based on available information.

Components:

TALC:

Genotoxicity in vitro	: Test Type: In vitro gene mutation study in bacteria Test species: Salmonella typhimurium Metabolic activation: with and without metabolic activation Results: negative
	: Test Type: In vitro gene mutation stude in bacteria Test species: Saccharomyces cerevisiae Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	: Test Type: dominant lethal test Test species: Rat (male) Cell type: Bone marrow Result: negative

C.I. PIGMENT GREEN 7 C.I. 74260:

Genotoxicity in vitro	: Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	: Test Type: chromosome aberration assay Test species: Chinese hamster Result: negative Remarks: Information given is based on data obtained from similar substances.

BISMUTH VANADIUM OXIDE:

Genotoxicity in vitro	: Test Type: Ames test Test species: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	: Test Type: Micronucleus test Test species: Mouse Cell type: Bone marrow Method: OECD Test Guideline 474 Result: negative

CARBON BLACK:

Genotoxicity in vitro	: Test Type: Ames test Test species: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative

COBALT 2-ETHYLHEXANOATE:

Genotoxicity in vitro	: Test Type: Ames test Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Result: negative

Carcinogenicity
May cause cancer.
Product:
Carcinogenicity - Assessment : Styrene has been tested for carcinogenicity in rats and mice.
Styrene caused lung tumors in mice only. These tumors are not considered to be relevant to humans.

Components:
QUARTZ / SAND:
Carcinogenicity - Assessment : Human carcinogen.

Reproductive toxicity
Suspected of damaging fertility.
Components:
COBALT 2-ETHYLHEXANOATE:
Reproductive toxicity Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments

STOT – single exposure
May cause respiratory irritation.
Components
STYRENE:
Assessment: May cause respiratory irritation.

METHYLMETHACRYLATE:
Target Organs: Upper respiratory tract
Assessment: May cause respiratory irritation.

SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC:
Assessment: May cause respiratory irritation.

Assessment: May cause drowsiness or dizziness.

STOT – repeated exposure
Causes damage to organs (Auditory system) through prolonged or repeated exposure if inhaled.
Components:
STYRENE:
Exposure routes: inhalation (vapor)
Target Organs: Auditory system
Assessment: Causes damage to organs through prolonged or repeated exposure.

QUARTZ / SAND:
Exposure routes: inhalation (dust/mist/fume)
Target Organs: Respiratory system, Kidney
Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity
Components:
STYRENE:
Species: Human
85 mg/m3
Application Route: inhalation (vapor)

Species: Human
615 mg/kg
Application Route: Skin contact

Aspiration toxicity
Not classified based on available information.
Components:
STYRENE:

May be fatal if swallowed and enters airways.
SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Solvents may degrease the skin.

Components:
QUARTZ / SAND
Remarks: Lung

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans	
	QUARTZ / SAND	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	STYRENE	100-42-5
	TITANIUM DIOXIDE (TIO2)	13463-67-7
	CARBON BLACK	1333-86-4
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.	
NTP	Known to be human carcinogen	
	QUARTZ / SAND	14808-60-7
	Reasonably anticipated to be a human carcinogen	
	STYRENE	100-42-5

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Product:
Ecotoxicology Assessment

Short-term (acute) aquatic hazard	: Acute aquatic toxicity Category 2; Toxic to aquatic life.
Long-term (chronic) aquatic hazard	: Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.

Components:
STYRENE:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 4.02 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC 50 (Daphnia magna (Water flea)): 4.7 mg/l Exposure time: 48 h
Toxicity to algae	: ErC50 (Pseudokirchneriella subcapitata (green algae)): 4.9 mg/l

Exposure time: 72 h

Toxicity to daphnia and other Aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 1.01 mg/l
Exposure time: 21 d

Toxicity to bacteria: EC50 (activated sludge): ca. 500 mg/l
Exposure time: 0.5 h

Toxicity to soil dwelling organisms: NOEC (Eisenia fetida (earthworms)): 34 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207

SILICA AMORPHOUS (SIO2):
Toxicity to fish: LC50 (Danio rerio (zebra fish)): > 10,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

TITANIUM DIOXIDE (TIO2):
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: static test

SILICA COLLOIDAL AMORHPOUS:
Toxicity to fish: LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

SILICA COLLOIDAL:
Toxicity to fish: NOEC (Fish): 10,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other Aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h

Toxicity to algae: NOEC (Desmodesmus subspicatus (green algae)): 10,000 mg/l
Exposure time: 72 h

METHYLMETHACRYLATE:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 130 mg/l
Exposure time: 96 h
Method: static test

: LC50 (Oncorhynchus mykiss (rainbow trout)): > 79 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 69 mg/l
Exposure time: 48 h
Test Type: flow-through test

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (algae)): > 110 mg/l
Exposure time: 72 h
Test Type: static test

Toxicity to fish (Chronic toxicity): LC50 (Danio rerio (zebra fish)): 33.7 mg/l
Exposure time: 35 d
Test Type: flow-through test
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 37 mg/l
Exposure time: 21 d
Test Type: flow-through test
Method: OECD Test Guideline 211

SOLVENT NAPTHA, PETROLEUM LIGHT AROMATIC:

Ecotoxicology Assessment
Short-term (acute) aquatic hazard : Toxic to aquatic life.

Long-term (chronic) aquatic hazard : Toxic to aquatic life with long lasting effects.

C.I. PIGMENT GREEN 7 C.I. 74260:
Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test

BISMUTH VANADIUM OXIDE:
Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmum subspicatus (green algae)): > 100 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): >= 100 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

CARBON BLACK:
Toxicity to fish : LC50 Danio rerio (zebra fish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 5,600 mg/l
Exposure time: 24 h
Test Type: static test
Remarks: No toxicity at the limit of solubility

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 10,000 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Remarks: No toxicity at the limit of solubility

COBALT 2-ETHYLHEXANOATE:
M-Factor (Short-term (acute) aquatic hazard 1

Ecotoxicology Assessment Short-Term (acute) aquatic hazard : Acute aquatic toxicity Category 1

Long-term (chronic) aquatic hazard : Chronic aquatic toxicity Category 3

Persistence and degradability
Components:
STYRENE:
Biodegradability : Result: Readily biodegradable.
Biodegradation: > 60 %
Exposure time: 10 d

SILICA COLLOIDAL AMORPHOUS:
Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

TALC:
Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

METHYLMETHACRYLATE:
Biodegradability : Result: Readily biodegradable.
Biodegradation: 94.3 %
Exposure time: 14 d
Method: OECD Test Guideline 301C

C.I. PIGMENT GREEN 7 C.I. 74260:
Biodegradability : Result: Not readily biodegradable.

BISMUTH VANADIUM OXIDE:
Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

CARBON BLACK:
Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

COBALT 2-ETHYLHEXANOATE:
Biodegradability : Result: Readily biodegradable.
Biodegradation: 60 %
Exposure time: 10 d
Method: OECD Test Guideline 301B

No data available
Bioaccumulative potential
Components:
STYRENE:
Bioaccumulation : Bioconcentration factor (BCF): < 100

Partition coefficient: n-octanol/water : log Pow: 2.96 (25 °C)

METHYLMETHACRYLATE:
Partition coefficient: n-octanol/water : log Pow: 1.38

No data available
Mobility in soil
Components:
STYRENE:
Distribution among environmental compartments : Koc: 352

No data available
Other adverse effects
Product:
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.

Components:
STYRENE:
Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and

toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods
General advice : Dispose of in accordance with all applicable local, state and federal regulations.

SECTION 14 - TRANSPORTATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
U.S. DOT - ROAD					
UN 1866	Resin solution	3		II	
CFR_RAIL_C					
UN 1866	Resin solution	3		II	
U.S. DOT - INLAND WATERWAYS					
UN 1866	Resin solution	3		II	
TDG_ROAD_C					
UN 1866	RESIN SOLUTION	3		II	
TDG_RAIL_C					
UN 1866	RESIN SOLUTION	3		II	
TDG_INWT_C					
UN 1866	RESIN SOLUTION	3		II	
INTERNATIONAL MARITIME DANGEROUS GOODS					
UN 1866	RESIN SOLUTION	3		II	

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1866	Resin solution	3	II

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1866	Resin solution	3	II

MX_DG

UN	1866	RESIN SOLUTION	3	II

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15 – RGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
STYRENE	100-42-5	1000	3508

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids) Combustible Dust
Hazard not otherwise classified (physical hazards) Skin corrosion or irritation
Serious eye damage or eye irritation Respiratory or skin sensitisation Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

STYRENE	100-42-5	28.50 %
METHYLMETHACRYLATE	80-62-6	9.90 %
BISMUTH VANADIUM OXIDE	14059-33-7	3.00 %

California Prop. 65

WARNING: This product can expose you to chemicals including styrene, Titanium oxide (TiO2), Talc (Mg3H2(SiO3)4), Carbon black, Quartz (SiO2), benzene, which is/are known to the State of California to cause cancer, and benzene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

DSL	:	This product contains one or several components that are not on the Canadian DSL and have annual quantity limits.
AICS	:	Not in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	Not in compliance with the inventory
TSCA	:	On TSCA Inventory

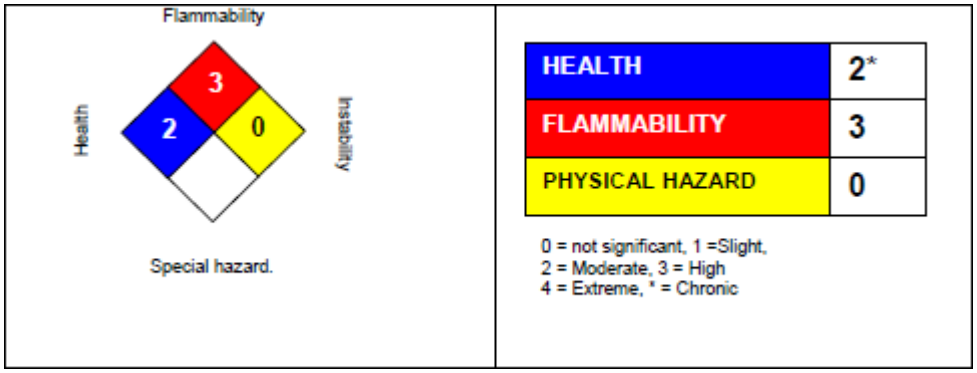
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16 – OTHER INFORMATION

Further information

Revision Date: **August 30, 2019**



NFPA Flammable and Combustible Liquids Classification

Flammable Liquid Class IB

Full text of H-Statements

H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.