

## GHS SAFETY DATA SHEET (SDS)

### SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** Part #700 – RAL6003 Olive Green 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.

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## SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

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#### 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 NAPHTHA, 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

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## SECTION 4 – FIRST AID MEASURES

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- 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 medical advice.
- In case of skin contact** : Remove contaminated clothing. If irritation develops, get medical 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.

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## SECTION 5 – FIRE-FIGHTING MEASURES

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- Suitable Extinguishing media** : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray  
Foam  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
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 (CO<sub>2</sub>)  
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.

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## SECTION 6 - ACCIDENTAL RELEASE and DISPOSAL MEASURES

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

<b>Procedures</b>	<p>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.</p>
<b>Environmental precautions</b>	<p>: 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.</p>
<b>Methods and materials for containment and cleaning up</b>	<p>: 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)</p>
<b>Other information</b>	<p>: Comply with all applicable federal, state, and local regulations          Suppress (knock down) gases/vapors/mists with a water spray jet.</p>

## SECTION 7 – STORAGE AND HANDLING

<b>Advice on safe handling</b>	<p>: 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.</p> <p>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".</p>
<b>Conditions for safe storage</b>	<p>: 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.</p>

## 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/m <sup>3</sup>	NIOSH REL
		ST	100 ppm 425 mg/m <sup>3</sup>	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/m <sup>3</sup>	OSHA P0
		STEL	100 ppm 425 mg/m <sup>3</sup>	OSHA P0
		C	500 ppm	CAL PEL
		PEL	50 ppm 215 mg/m <sup>3</sup>	CAL PEL
		STEL	100 ppm 425 mg/m <sup>3</sup>	CAL PEL
SILICA AMORPHOUS (SIO <sub>2</sub> )	7631-86-9	TWA	20 Million particles per cubic foot Dust (Silica)	OSHA Z-3
		TWA	80 mg/m <sup>3</sup> / %SiO <sub>2</sub> Dust (Silica)	OSHA Z-3
		TWA	6 mg/m <sup>3</sup> (Silica)	NIOSH REL
		PEL	6 mg/m <sup>3</sup>	CAL PEL
		TWA	15 mg/m <sup>3</sup> Total dust	OSHA Z-1
		TWA	10 mg/m <sup>3</sup> Total dust	OSHA P0
TITANIUM DIOXIDE (TIO <sub>2</sub> )	13463-67-7	PEL	10 mg/m <sup>3</sup> Total dust (Titanium)	CAL PEL
		PEL	5 mg/m <sup>3</sup> Respirable dust Fraction (Titanium)	CAL PEL
		TWA	10 mg/m <sup>3</sup> (Titanium dioxide)	ACGIH
		TWA	20 Million particles per cubic foot Dust (Silica)	OSHA Z-3
SILICA COLLOIDAL AMORPHOUS	112945-52-5	TWA	80 mg/m <sup>3</sup> / %SiO <sub>2</sub> Dust (Silica)	OSHA Z-3
		TWA	6 mg/m <sup>3</sup> (Silica)	NIOSH REL
		PEL	6 mg/m <sup>3</sup>	CAL PEL
		TWA	20 Million particles per cubic foot Dust	OSHA Z-3
TALC	14807-96-6	TWA	2 mg/m <sup>3</sup> 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 NAPHTHA, 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/m <sup>3</sup> Respirable Fraction (Silica)	ACGIH
		TWA	0.05 mg/m <sup>3</sup> Respirable dust (Silica)	NIOSH REL
		TWA	0.05 mg/m <sup>3</sup> 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 phenylglyoxalic 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 equipmentsupplier).

Hygiene measures : Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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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/cm <sup>3</sup> (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 mm<sup>2</sup>/s (40 °C)  
Oxidizing properties : No data available

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## SECTION 10 - STABILITY AND REACTIVITY

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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 form 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 (CO<sub>2</sub>)  
Carbon monoxide  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides  
Carbon dioxide and carbon monoxide

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## SECTION 11 – TOXICOLOGICAL INFORMATION

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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 (SIO<sub>2</sub>):**

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 (TIO<sub>2</sub>):**

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 NAPHTHA, PETROLEIUM LIGHT ARMOATIC:**

Acute oral toxicity : LD50 (Rat): > 5,600 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 10,200 mg/m<sup>3</sup>  
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 (SiO<sub>2</sub>):**

Result: Slight, transient irritation

**TITANIUM DIOXIDE (TiO<sub>2</sub>):**

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 NAPHTHA, 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 (SiO<sub>2</sub>):

Result: Slight, transient irritation

TITANIUM DIOXIDE (TiO<sub>2</sub>):

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 NAPHTHA, 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: OECD 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 NAPHTHA, 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/m<sup>3</sup>

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 NAPHTHA, 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 (TIO<sub>2</sub>) 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

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## SECTION 12 - ECOLOGICAL INFORMATION

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**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 AMORPHOUS: 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 NAPHTHA, 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).

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## SECTION 13 - DISPOSAL CONSIDERATIONS

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### Disposal methods

General advice

: Dispose of in accordance with all applicable local, state and federal regulations.

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## SECTION 14 - TRANSPORTATION

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### International transport regulations

#### REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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#### U.S. DOT - ROAD

UN	1866	Resin solution	3	II	
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#### 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
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**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

UN	1866	Resin solution	3	II
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**MX\_DG**

UN	1866	RESIN SOLUTION	3	II
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\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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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 – REGULATORY 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 (TiO<sub>2</sub>), Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>), Carbon black, Quartz (SiO<sub>2</sub>), 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](http://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)

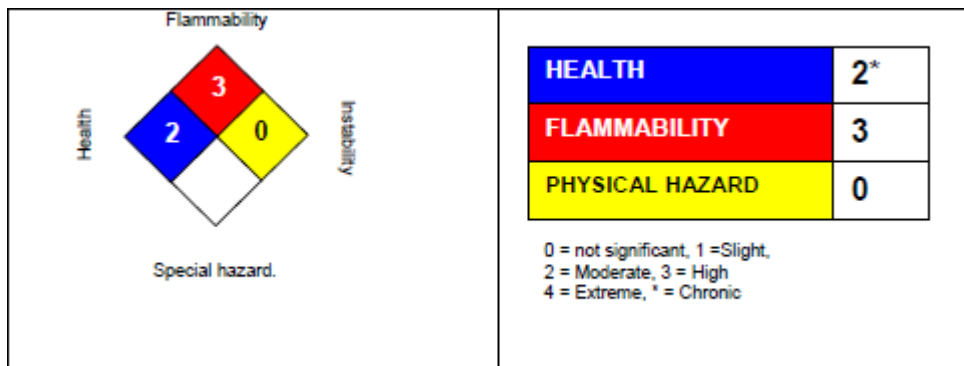
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**SECTION 16 – OTHER INFORMATION**

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**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.