# Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifier: CS-5500 High Temperature Fuel Tank Sealant-Pre-mixed and Frozen CLA ALL  
   - Product Name: High Temperature Fuel Tank Sealant / Premixed and Frozen CLA ALL  
   - Product reference: CS-5500-Premixed and Frozen CLA ALL  

1.2. Product Use:  
   - High Temperature Fuel Tank Sealant Pre-Mixed and Frozen  

1.3. Manufacturer’s Name:  
   CAGE Code: 14439  
   Flamemaster Corp.  
   Chem Seal Division  
   13576 Desmond Street  
   Pacoima, CA 91333 – USA  

1.3.1 Suppliers Name (if not manufacturer)  

1.4. Emergency Telephone:  
   Flamemaster Corp.  
   Chemtrec – Chemtrec International  
   Tel: 818-890-1401  
   800-424-9300 (North America)  
   Fax: 818-890-6001  
   703-527-3887 (Outside North America)  
   www.flamemaster.com  

**Specification:**        MIL-S-83430/AMS3276/FMS1044/FMS3055  
Pre-Mixed and Frozen  
CLASS A  
ALL  

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Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.  
**MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY**
OSHA/HCS STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CLASSIFICATION OF THE MIXTURE:
ASPIRATION HAZARD - (CATEGORY 1)
ACUTE TOXICITY, INHALATION (CATEGORY 4) - H332
ACUTE TOXICITY, ORAL (CATEGORY 4) - H302
SKIN SENSITIZATION 1, H317
TOXIC TO REPRODUCTION (FERTILITY) 2, H361f
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (UNBORN CHILD) - Category 2
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE -(CATEGORY 3)
SPECIFIC TARGET ORGAN TOXICITY(REPEATED EXPOSURE) - Category 2
AQUATIC CHRONIC - CATEGORY 4

GHS LABEL REQUIREMENTS
HAZARD PICTOGRAMS

SIGNAL WORD : DANGER

HAZARD STATEMENTS:
SUSPECTED OF DAMAGING FERTILITY - H361f
HARMFUL BY INHALATION AND / OR SWALLOWING
MAY CAUSE AN ALLERGIC SKIN REACTION - H317
CAUSES SERIOUS EYE IRRITATION - (H319)
CAUSES SKIN IRRITATION - (H315)
SUSPECTED OF DAMAGING THE UNBORN CHILD - (H361d)
SUSPECTED OF CAUSING CANCER - (H351)
MAY CAUSE DAMAGE TO ORGANS - (H371)
MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE - (H373)
MAY CAUSE LONG LASTING HARMFUL EFFECTS TO AQUATIC LIFE - (H413)
MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS - (H304)
MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

PRECAUTIONARY STATEMENTS:
- P101+P102+P103: If medical advice is needed, have product container or label at hand. Keep out of reach of children.
- Read label before use
- P202: Do not handle until all safety precautions have been read and understood
- P210: Keep away from heat/sparks/open flames and hot surfaces-No Smoking
- P240: Ground/bond container and receiving equipment
- P261+P262+P263+P264: Avoid breathing dust/fumes/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling.
- P270+P271+P273: Do not eat drink or smoke when using this product. Use only outdoors or in a well ventilated area. Avoid release to the environment.
- P281+P280: Use personal protective equipment as required. Wear protective gloves/ protective clothing/ eye protection/face protection
- P301+P310+P331: If swallowed: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting.
- P305+P362+P338+P315: In eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice attention.
- P304+P340+P314: If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell
- P342+P340+P315: If experiencing respiratory symptoms: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention.
- P302+P352: If on skin (or in hair): Wash with plenty of soap and water. If skin irritation occurs seek medical attention
- P306+P361: If on clothing: Remove/ take off immediately all contaminated clothing
- P402+P403+P404: Store in a dry place. Store in a well ventilated space. Store in a closed container.
- P233+P234+P235: Keep container tightly closed. Keep only in original container. Keep cool.
SUPPLEMENTAL LABEL ELEMENTS:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of concentrations above recommended limits causes headaches, drowsiness and nausea and could lead to unconsciousness or possibly death.
1-component mixtures: formaldehyde is released during the curing phase. Formaldehyde may cause irreversible effects, is irritating to the mucous membranes and may cause the skin to become sensitized. Avoid any contact with skin or clothing and wash thoroughly after handling.

HAZARDS NOT OTHERWISE CLASSIFIED:
Prolonged or repeated exposure may dry skin and/or cause skin irritation.

Sanding and grinding dust may be harmful if inhaled. Sanding and grinding dust may form combustible concentrations in air.
In the event of sanding, grinding, or abrading:
H372 Causes damage to organs through prolonged or repeated exposure.

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

Section -3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical family: Mixture of organic compounds
For the hazards of the composition, (SDS see Section 2).

GHS CLASSIFICATION: LIQUID POLYSULFIDE POLYMER // OSHA HAZARDS: TARGET ORGAN EFFECT, IRRITANT

<table>
<thead>
<tr>
<th>Chemical family</th>
<th>Cas#</th>
<th>EC#</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>EYE IRRITATION</td>
<td>N/A</td>
<td>N/A</td>
<td>&lt;=71%</td>
</tr>
<tr>
<td>SKIN IRRITATION</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE-(CATEGORY 3)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>AQUATIC, CHRONIC (CATEGORY 3)</td>
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</table>

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS): TOLUENE

<table>
<thead>
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<th>Chemical family</th>
<th>Cas#</th>
<th>EC#</th>
<th>Weight %</th>
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</thead>
<tbody>
<tr>
<td>FLAMMABLE LIQUIDS (CATEGORY 2), H225</td>
<td>108-88-3</td>
<td>203-625-9</td>
<td>&lt;=15%</td>
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<td>SKIN IRRITATION (CATEGORY 2), H315</td>
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<td>REPRODUCTIVE TOXICITY (CATEGORY 2), H361</td>
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<td>SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE-(CATEGORY 3), CENTRAL NERVOUS SYSTEM, H336</td>
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<td>SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE (CATEGORY 2), H373</td>
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<td>ASPIRATION HAZARD (CATEGORY 1), H304</td>
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</tr>
<tr>
<td>ACUTE AQUATIC TOXICITY (CATEGORY 2), H401</td>
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2-BUTANONE

<table>
<thead>
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<th>Chemical family</th>
<th>Cas#</th>
<th>EC#</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA HAZARDS: FLAMMABLE LIQUID, TARGET ORGAN EFFECT, IRRITANT</td>
<td>78-93-3</td>
<td>201-159-0</td>
<td>&lt;=15%</td>
</tr>
<tr>
<td>TARGET ORGANS: CENTRAL NERVOUS SYSTEM</td>
<td></td>
<td></td>
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<tr>
<td>GHS CLASSIFICATION: 2-BUTANONE</td>
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<tr>
<td>FLAMMABLE LIQUIDS (CATEGORY 2)</td>
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<tr>
<td>ACUTE TOXICITY, ORAL (CATEGORY 5)</td>
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<tr>
<td>EYE IRRITATION (CATEGORY 2A)</td>
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<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE (CATEGORY 3), CENTRAL NERVOUS SYSTEM</td>
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</tr>
<tr>
<td>OTHER HAZARDS: REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS AND CRACKING</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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CALCIUM CARBONATE:

GHS CLASSIFICATION: CALCIUM CARBONATE
EYE DAMAGE (CATEGORY 1)
SKIN IRRITATION (CATEGORY 2)
SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE-(CATEGORY 3)

PHENOLIC FORMALDEHYDE POLYMER: HAZARD INFORMATION

PHYSICAL/CHEMICAL HAZARDS: CORROSIVE
HUMAN HEALTH HAZARDS: HARMFUL BY INHALATION, CORROSIVE TO THE EYES AND SKIN
ENVIRONMENTAL HAZARDS: TOXIC TO AQUATIC ORGANISMS
GHS CLASSIFICATION: PHENOLIC RESIN
ACUTE TOXICITY,ORAL (CATEGORY 4)
ACUTE TOXICITY,DERMAL (CATEGORY 4)
SKIN CORROSIVE (CATEGORY 1B)
EYE IRRITATION (CATEGORY 2)
SKIN IRRITATION (CATEGORY 2)
EYE DAMAGE (CATEGORY 1)
AQUATIC CHRONIC (CATEGORY 2)

TITANIUM DIOXIDE

OSHA HAZARDS: CARCINOGEN
GHS CLASSIFICATION: TITANIUM DIOXIDE
SKIN IRRITATION: (CATEGORY 3)
CARCINOGENICITY (CATEGORY 2)

CHEMICAL NAME: MANGANESE DIOXIDE

OSHA HAZARDS: TARGET ORGAN EFFECT, TOXIC BY INHALATION
TARGET ORGANS: NERVES, LUNGS
GHS CLASSIFICATION:
ACUTE TOXICITY, ORAL (CATEGORY 4) - H302
ACUTE TOXICITY, INHALATION (CATEGORY 4) - H332

CHEMICAL NAME: TERPHENYL, HYDROGENATED

AQUATIC CHRONIC (CATEGORY 4) - H413

CHEMICAL NAME: ZEOLITES

NOT CLASSIFIED

CHEMICAL NAME: TALC

NOT CLASSIFIED

CHEMICAL NAME: CARBON BLACK

NOT CLASSIFIED

CHEMICAL NAME: TERPHENYL

AQUATIC ACUTE (CATEGORY 1) - H400
AQUATIC CHRONIC (CATEGORY 1) - H410

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CHEMICAL NAME: 1,3 DIPHENYLGUANIDINE  
CAS# 102-06-7  
EC# 203-002-1  
<3% by weight

ACUTE TOXICITY (CATEGORY 4) - H302
SKIN IRRITATION (CATEGORY 2) - H315
EYE IRRITATION (CATEGORY 2) - H319
REPRODUCTIVE (CATEGORY 2) - H361f (FERTILITY)
STOT-SINGLE EXPOSURE (CATEGORY 3) - H335
AQUATIC CHRONIC (CATEGORY 2) - H411

CHEMICAL NAME: BIS(PIPERIDINOTHIOCARBONYL) TETRASULFIDE  
CAS# 120-54-7  
EC# 204-406-0  
<3% by weight

SKIN SENSITIVITY (CATEGORY 1) - H317

CHEMICAL NAME: POLYPHENYL, QUATER AND HIGHER  
CAS# 68956-74-1  
<10% by weight

MAGNESIUM CARBONATE  
CAS# 546-93-0  
<10% by weight

Section -4. FIRST-AID MEASURES

General: When in doubt or symptoms persist, seek medical attention. Have Safety Data Sheet information available. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air, if breathing has stopped, administer artificial respiration. Give nothing by mouth, seek immediate medical attention.

Eye contact: Check for and remove any contact lenses. Irrigate with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek immediate medical attention.

Skin contact: Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognized skin cleaners. Do NOT use aromatic solvents, thinners or petroleum products.

Ingestion: If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. May be fatal if swallowed or vomited and enters lungs and/or airways. Never give anything by mouth to an unconscious person.

Section -5. FIRE-FIGHTING MEASURES

Extinguishing agents

Recommended: Universal resistant foam, CO2, water, powder.

Agents to avoid: None known

Attention

Promptly remove all persons in the event of a fire from the fire area. If safe to do so, remove all containers from fire area as well.

Fire will produce dense black smoke. Exposure to decomposition products may cause a Health Hazard. Fire fighters should wear self-contained breathing apparatus.

Water mist may be used to cool closed containers to prevent pressure build-up and possible auto-ignition and explosion when exposed to extreme heat.

Do not weld, flame cut or expose to extreme heat or ignition sources, empty containers which have contained flammable products.

Do not allow run-off from fire fighting to enter drains or water courses.

Never allow this material, any solutions, or any by-products, as well as any run-off, to come into contact with soil, waterways, wildlife habitats, drains, sewers, and / or the ocean. Avoid release into environment.

In case of inhalation of decomposition products released in a fire, symptoms may be delayed. Exposed persons may need to be kept under medical surveillance for at least 48 hours.

HAZARDOUS DECOMPOSITION PRODUCTS INCLUDE: CARBON DIOXIDE, CARBON MONOXIDE, HALOGENATED COMPOUNDS, AND METAL OXIDE / OXIDES, FORMALDEHYDE, NITROGEN OXIDES, SULFUR OXIDES.

Oxides of Carbon, Nitrogen, Sulfur Dioxide, Trace Hydrogen Sulfide, Manganese Compounds

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

MAY CAUSE CRYOGENIC Burns OR OTHER INJURY

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Section -6. ACCIDENTAL RELEASE MEASURES

Eliminate sources of ignition, ventilate the area. Avoid breathing vapors by using appropriate respiratory protective equipment. Refer to protective measures listed in sections 7 & 8.

Collect spill with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container for disposal in accordance with local regulations (see section 13). Do not allow to enter drains or watercourses.

Clean-up with a detergent/ water mix; avoid use of aromatic solvents. If the product enters drains or watercourses, inform authority with jurisdiction in accordance with state / local regulations.

Never allow this material, any solutions, or any by-products, as well as any run-off, to come into contact with soil, waterways, wildlife habitats, drains, sewers, and / or the ocean. Avoid release into environment.

Section -7. HANDLING AND STORAGE

7.1 Handling:

No smoking, eating and drinking during handling.

Avoid exposure during pregnancy/while nursing.

Keep containers tightly closed. Prior to movement containers which are opened should be carefully resealed.

Avoid skin and eye contact. Avoid inhalation in case of exposure to vapor and spray mist.

Handle and open containers with care to avoid spilling of contents. Never use pressure to empty; container is not a pressure vessel. Clean or discard contaminated clothing and shoes.

Preparation may charge electrostatically; always use grounding/bonding/earthing leads when transferring contents of containers. Operators should wear antistatic footwear and clothing, and floors should be electrically conductive.

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapor in air, and avoid vapor concentration higher than the Occupational Exposure Limits.

Use in areas from which local sources of ignition have been excluded. Electrical equipment including lighting should be protected to the appropriate standard. Isolate from sources of heat, sparks and open flame. Non-sparking tools are recommended.

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

7.2 Storage:

Observe label precautions. Store between 32/F and 95/F (0/C and 35/C) in a dry, clean and well ventilated place, away from sources of heat, ignition, and direct sunlight. For flash points below 23 °C store in an area constructed to the appropriate standard.

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Engineering measures:

Avoid the inhalation of vapors, spray mist and particulates. Achieve by local exhaust ventilation providing good general extraction as to keep air-borne concentration below the Occupational Exposure Limits (OEL).

If local / area ventilation is not sufficient to comply with OEL, suitable (NIOSH) respiratory protection to be provided. Always provide suitable (NIOSH) respiratory protection when sanding, grinding or otherwise abrading cured material.

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

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8.2 Exposure limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>OSHA</th>
<th>ACGIH TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIPHATIC POLYSULFIDE-POLYMER</td>
<td>Not known</td>
<td>Not known</td>
</tr>
<tr>
<td>TOLUENE (Methylbenzene) *</td>
<td>200 ppm</td>
<td>20 ppm</td>
</tr>
<tr>
<td>2-BUTANONE (MEK) *</td>
<td>200 ppm</td>
<td>200 ppm</td>
</tr>
<tr>
<td>PHENOLIC FORMALDEHYDE POLYMER *</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>CALCIUM CARBONATE *</td>
<td>5 mg/m³ (RESPIRABLE FRACTION)</td>
<td>3 mg/m³ (RESPIRABLE FRACTION)</td>
</tr>
<tr>
<td>TITANIUM DIOXIDE *</td>
<td>15 mg/m³ (TOTAL DUST)</td>
<td>10 mg/m³ (TOTAL DUST)</td>
</tr>
<tr>
<td>Zeolites *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talc *</td>
<td></td>
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</tr>
<tr>
<td>Carbon Black *</td>
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<td></td>
</tr>
<tr>
<td>Terphenyl, Hydrogenated *</td>
<td>TWA: 4.9 mg/m³ 8 hours</td>
<td>TWA: 0.5 ppm 8 hours</td>
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<tr>
<td>Terphenyl *</td>
<td>TWA: 1 mg/m³ 8 hours (Respirable Fraction)</td>
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</tr>
<tr>
<td>Talc *</td>
<td>TWA: 2 mg/m³ 8 hours (Respirable Fraction)</td>
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<tr>
<td>Carbon Black *</td>
<td>TWA: 3 mg/m³ 8 hours (Inhalable Fraction)</td>
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<tr>
<td>Terphenyl *</td>
<td>C: 5 mg/m³</td>
<td>C: 0.53 ppm</td>
</tr>
<tr>
<td>MAGNESIUM CARBONATE *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.3 Personal protection

All Personal Protective Equipment, including Respiratory Protection, used to control exposure to hazardous substances must be selected to meet the requirements of OSHA Regulations.

Respiratory protection:
Appropriate respiratory protection equipment should be selected according to the type of contaminants, following regulatory (OSHA / NIOSH) and manufacturers instructions including proper fitting of devices.

Hand protection:
For prolonged or repeated contact, recommend gloves type: polyvinyl alcohol, nitrile rubber, latex rubber (some people may exhibit sensitivity to Latex). Barrier creams may help to protect exposed areas of the skin. However, they should not be applied post exposure.

Eye protection:
Use safety glasses with side shields to protect against splashes. Face shields may also be worn.

Skin protection:
Protective clothing made of antistatic and fire resistant fibers. All parts of the body should be washed after contact. Use good hygiene and industrial practices, keep working clothes clean.

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Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.
MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at: 68 ° F (20 º C) SOLID
- Flash point: 200 ° F (16.67 º C) Method: TCC
- Specific gravity: N/A
- Vapor Density: N/A
- Lower Explosive Limit (% vol.): N/A
- Upper Explosive Limit (% vol.): N/A
- Miscibility in water at 20 º C: Negligible
- VOC : N/A
- Ph : N/A
- Volatile by Volume % : N/A
- Vapor pressure at: 68 ° F (20 º C) N/A
- Color: Dark Grey to Black
- Appearance: Paste
- Odor: Polysulfide Odor
- Boiling Point: N/A
- Material Supports Combustion : Yes

10. STABILITY AND REACTIVITY

Stable under recommended storage and handling conditions (see SDS section 7). In case of combustion, may produce hazardous decomposition products such as:
- Carbon Monoxide
- Sulfur Oxides
- Carbon Dioxide
- Formaldehyde
- Halogenated Compounds
- Oxides of Carbon, Nitrogen, Sulfur Dioxide, Trace Hydrogen Sulfide
- Metal Oxide / Oxides
- Manganese Compounds

In case of inhalation of decomposition products released in a fire, symptoms may be delayed. Exposed persons may need to be kept under medical surveillance for at least 48 hours.
Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.
MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

11. TOXICOLOGICAL INFORMATION

There are no data available on the preparation itself. See (SDS Sections 3 and 15) for details.
Exposure to component solvents vapors at concentrations in excess of the stated Occupational Exposure Limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system.
Symptoms and signs of overexposure include headache, dizziness, fatigue, muscular weakness, drowsiness, reduced fetal weight, increase in fetal deaths, skeletal malformations, and in extreme cases loss of consciousness.
Repeated or prolonged contact with the preparation may cause Defatting of the skin resulting in non-allergic dermatitis and absorption through the skin.
The liquid splashed in the eyes causes serious eye irritation and damage.
Irritating to mouth, throat and stomach. Ingestion causes reduced fetal weight, increased fetal deaths and skeletal malformations.
### Acute Toxicity:

<table>
<thead>
<tr>
<th>Product</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
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<tbody>
<tr>
<td>Calcium Carbonate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>6450 mg/kg</td>
<td>-</td>
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<tr>
<td>Butanone</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>11243 ppm</td>
<td>4 Hours</td>
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<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>6480 mg/kg</td>
<td>-</td>
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<td>LD50 Oral</td>
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<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>8000 ppm</td>
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<td>LD50 Dermal</td>
<td>Rabbit</td>
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<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>636 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;10g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Manganese Dioxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3478 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Butanone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>17500 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Zeolites</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;15400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Terphenyl</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;1400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>1,3-Diphenylguanidine</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>323 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Magnesium Carbonate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>8000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

### May Cause Cryogenic Burns or Other Injury

May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer. Risk depends on level and duration of exposure. Suspected of damaging the unborn child.

### Carcinogenicity:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>IARC</th>
<th>OSHA</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>2B</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Zeolites</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Carbon Black, Respirable Powder</td>
<td>2B</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Specific Target Organ Toxicity-Stot (Single Exposure)

- **Butanone** - Category 3
- **Liquid Polymer** - Category 3
- **Toluene** - Category 3
- **Toluene** - Category 3
- **Liquid Polymer** - Category 3
- **1,3-Diphenylguanidine** - (Category 3)
- **Zeoites** - (Category 3)
- **Talc** - (Category 3)

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SPECIFIC TARGET ORGAN TOXICITY-STOT (REPEATED EXPOSURE)

TOLUENE - CATEGORY 2
Manganese Dioxide - (Category 2)

TARGET ORGANS: BRAIN, BLOOD, KIDNEYS, LUNGS, REPRODUCTIVE SYSTEM, LIVER, HEART, PERIPHERAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT, UPPER RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS AND/OR CORNEA.

ASPIRATION HAZARD:
TOLUENE - CATEGORY 1

ASPIRATION HAZARD - (CATEGORY 1)
May Be Fatal if Swallowed and Enters Airways

12. ECOLOGICAL INFORMATION

There is no data available on the preparation itself. Do not allow the product to enter drains or water ways. See (SDS Sections 3 and 15)
Never allow this material, any solutions, or any by-products, as well as any run-off, to come into contact with soil, waterways, wildlife habitats, drains, sewers, and/or the ocean. Avoid release into environment.

Empty containers and/or liners may contain material residue. Empty contaminated packagings thoroughly. Dispose in accordance with all Federal, State, and local health and environmental regulations.

<table>
<thead>
<tr>
<th>Toxicity :</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product / Ingredient</strong></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Persistance and Degradability :</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product / Ingredient</strong></td>
</tr>
<tr>
<td>Toluene</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bioaccumulative Potential :</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product / Ingredient</strong></td>
</tr>
<tr>
<td>Butanone</td>
</tr>
<tr>
<td>Toluene</td>
</tr>
<tr>
<td>1,3 Diphenylguanidine</td>
</tr>
<tr>
<td>Bis(piperidinothiocarbonyl) tetrasulfide</td>
</tr>
</tbody>
</table>

**Mobility in Soil :** Not Available

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13. DISPOSAL CONSIDERATIONS

Recommended incineration or land fill as hazardous waste per Federal, State and local regulations.
React with curing agent and dispose of as hazardous waste per Federal, State and local regulations. Recommended incineration or land fill.
Empty containers and/or liners may contain material residue. Empty contaminated packagings thoroughly. Dispose in accordance with all Federal, State, and local health and environmental regulations.
Never allow this material, any solutions, or any by-products, as well as any run-off, to come into contact with soil, waterways, wildlife habitats, drains, sewers, and / or the ocean. Avoid release into environment.

14. TRANSPORT INFORMATION

DOT: § 172.101 HAZARDOUS MATERIALS TABLE

UN Number: 1845

Proper Shipping Name: Carbon Dioxide Solid (Dry Ice)
Labels: Carbon Dioxide Solid (Dry Ice)

Hazard Class: 9 Subclass: NO
Packaging Group: III

Passenger Air Packing Instruction: 355
Passenger aircraft: 60 Liter (16 gallon)
Cargo Air Packing Instruction: 366
Cargo aircraft only: 220 Liter (58 gallon)

IMDG:

UN Number: 1845
Proper Shipping Name: Carbon Dioxide Solid (Dry Ice)
Label: Carbon Dioxide Solid (Dry Ice)
Hazard Class: 9 Subclass: NO
Packaging Group: III
EMS No: F, E – S, D

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.
MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

15. REGULATORY INFORMATION

US Regulations Federal

<table>
<thead>
<tr>
<th>Chemical (s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 (SARA)</th>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight %</th>
<th>Threshold limit (Reporting Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE (Methylbenzene)</td>
<td>108-88-3</td>
<td>&lt;=15%</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>LIQUID POLYMER</td>
<td>N/A</td>
<td>50%-71%</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>2-BUTANONE</td>
<td>78-93-3</td>
<td>&lt;=15%</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>72608-12-9</td>
<td>&lt;35%</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>*13463-67-7</td>
<td>&lt; 3%</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>Manganese Dioxide</td>
<td>1313-13-9</td>
<td>&lt;65%</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>*(DELETED CAS# 98084-96-9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA notifications must remain attached to this SDS. Any copies and /or distribution of this SDS must include all SARA notifications.

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All remaining Constituents are non-hazardous per FED-STD-313 All Constituents are listed in TSCA inventory; complete mixture is excluded Per TSCA Par. 710.4 (d) 95 (6) (7) Constituents are not listed in TSCA 12b CORR. LIST

SARA 311/312
Classification: Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition of Ingredients:
- Butanone: Fire Hazard, Immediate (acute) Health Hazard
- Polysulfide Polymer: Immediate (acute) Health Hazard
- Toluene: Fire Hazard, Immediate (acute) Health Hazard, Delayed (chronic) Health Hazard
- Phenolic Formaldehyde Polymer: Immediate (acute) Health Hazard
- Titanium Dioxide: Delayed (chronic) Health Hazard
- Manganese Dioxide: Immediate (acute) health hazard, Delayed (chronic) health hazard
- Zeolites: Immediate (acute) health hazard
- Polyphenyls, quater and higher: Immediate (acute) health hazard
- Talc: Immediate (acute) health hazard
- Carbon Black: Fire Hazard, Delayed (chronic) health hazard
- Terphenyl: Immediate (acute) health hazard
- 1,3-Diphenylguanidine: Fire Hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
- Bis(piperidinothiocarbonyl) tetrasulfide: Fire Hazard, Immediate (acute) health hazard

Sudden Release Of Pressure: No Products
Reactivity: No Products

United States: Sara 302/304 (Sara 304 RQ): Not Applicable
Information On Ingredients: None Were Found

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus. MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY
This SDS is provided without any warranty expressed or implied regarding its correctness or suitability for specific situations. The conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge.
California Prop. 65: Warning
This product contains a chemical or chemicals known by the State of California to cause cancer, birth defects or other reproductive harm.

Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY

Canada

Class B – Flammable
TOLUENE
2-BUTANONE

Class D - Poisonous and Infectious materials Division 2: Materials Causing Other Toxic Effects D2A TOLUENE D2B
TOLUENE
Liquid Polysulfide Polymer CAS# N/A
2-BUTANONE CAS#78-93-3
PHENOLIC RESIN CAS# N/A
Calcium Carbonate CAS# 72608-12-9
Titanium Dioxide CAS# 13463-67-7
Manganese Dioxide CAS# 1313-13-9

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

Listed National Pollutant Release Inventory (NPRI): TOLUENE CAS:108-88-3
2-BUTANONE CAS#78-93-3
PHENOLIC FORMALDEHYDE POLYMER CAS# N/A
PHENOLIC RESIN CAS# N/A
Calcium Carbonate CAS# 72608-12-9
Titanium Dioxide CAS# 13463-67-7
Manganese Dioxide CAS# 1313-13-9

16. OTHER INFORMATION

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Vapors are heavier than air and will collect at low points. Dry ice releases Carbon Dioxide and poses serious suffocation hazard. In confined areas or areas without proper ventilation wear self contained breathing apparatus.

**MAY CAUSE CRYOGENIC BURNS OR OTHER INJURY**

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**Preparer:** Flamemaster / Compliance
**Revision Notes:** A
**Conversion to ANSI format**

**Rev-A 4/02/2015**
**Supersedes (conversion)**

**Containers:** plastic jars, metal cans, cartridge kits

**Limited Quantity** See SDS Section 14

**Maximum container size** 50 Gallons / 190 Liters

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**Notice to reader:**
This SDS is provided without any warranty expressed or implied regarding its correctness or suitability for specific situations. The conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge.

In all cases, the user must determine the applicability of all information and recommendations contained herein as well as the suitability of this product for their own particular needs or purposes.

This product may be hazardous and should always be used with care and discretion. Every effort has been made to describe all known hazards, but this in no way guarantees the above mentioned hazards are the only hazards present.

Flamemaster Corporation, its Affiliates and its Agents, shall in no way be held liable for any damages resulting from handling, using, storing, disposing of, or from contact with this product. User assumes all risk.

**End of Safety Data Sheet**