

Section -1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifier: CS-5500 Part-B Class-C Catalyst (all application times)
 - Product Name: High Temperature Fuel Tank Sealant Catalyst Part-B
 - Product reference: CS-5500-C

1.2. Product Use:
 -High Temperature Fuel Tank Sealant

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)

Technical Contact:
 Flamemaster Corp.
 Tel: 818-890-1401
 Fax: 818-890-6001
www.flamemaster.com

1.4. Emergency Telephone:
 Chemtrec – Chemtrec International
 800-424-9300 (North America)
 703-527-3887 (Outside North America))

Specification: IAW AMS 3276 G CATALYST PART B CLASS C

NSN : NONE ISSUED FOR THIS PRODUCT

Section -2. HAZARD (S) IDENTIFICATION

ASPIRATION HAZARD - CATEGORY 1

ACUTE TOXICITY (ORAL) 4, H302

ACUTE TOXICITY (INHALATION) 4, H332

SKIN SENSITIZATION 1, H317

CARCINOGENICITY 2, H351

TOXIC TO REPRODUCTION (FERTILITY) 2, H361f

SPECIFIC TARGET ORGAN TOXICITY (STOT) REPEATED EXPOSURE 2, H373

For A Complete List of H-Statements and Classifications See Section 16

OSHA / HCS STATUS : THIS MATERIAL IS CONSIDERED HAZARDOUS BY THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

Human and Environmental Hazards:

HAZARD STATEMENTS:

MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS

Harmful by Inhalation and / or Swallowing

Irritating to Eyes and Skin

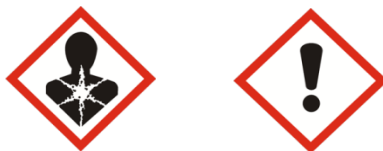
May Cause An Allergic Skin Reaction

Suspected of Causing Cancer

Suspected of Damaging Fertility

May Cause Damage to Organs Through Prolonged or Repeated Exposure

HAZARD PICTOGRAMS:



SIGNAL WORD:

DANGER

Full text of P statements associated to this compound:

- 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+P351+P338+P315: If 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: Wash with plenty of soap and water
- 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.

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HAZARDS NOT OTHERWISE CLASSIFIED: OXIDISING POTENTIAL: Contact with combustible material may result in fire. Keep away from combustible materials. This material increases the risk of fire and may aid in combustion.

Other Hazards that do not result in classification:

Prolonged or repeated exposure may dry skin and / or cause irritation

Section -3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical family : Mixture of organic compounds

For the hazards of the composition, (SDS see Section 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	CAS# 1313-13-9	EC# 215-202-6	<65% by weight
CHEMICAL NAME: TERPHENYL, HYDROGENATED AQUATIC CHRONIC (CATEGORY 4) - H413	CAS# 61788-32-7	EC# 262-967-7	<50% by weight
CHEMICAL NAME: ZEOLITES NOT CLASSIFIED	CAS# 1318-02-1	EC# 215-283-8	<15% by weight
CHEMICAL NAME: TALC NOT CLASSIFIED	CAS# 14807-96-6	EC# 238-877-9	<10% by weight
CHEMICAL NAME: CARBON BLACK NOT CLASSIFIED	CAS# 1333-86-4	EC# 215-609-9	<10% by weight
CHEMICAL NAME: TERPHENYL AQUATIC ACUTE (CATEGORY 1) - H400 AQUATIC CHRONIC (CATEGORY 1) - H410	CAS# 26140-60-3	EC# 247-477-3	<10% by weight
CHEMICAL NAME: 1,3-DIPHENYLGUANIDINE 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	CAS# 102-06-7	EC# 203-002-1	<3% by weight
CHEMICAL NAME: BIS(PIPERIDINOTHIOCARBONYL) TETRASULFIDE SKIN SENSITIVITY (CATEGORY 1) - H317	CAS# 120-54-7	EC# 204-406-0	<3% by weight
CHEMICAL NAME: POLYPHENYL, QUATER AND HIGHER	CAS# 68956-74-1		<10% by weight
MAGNESIUM CARBONATE	CAS# 546-93-0		<10% by weight

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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. 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

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.

Hazardous decomposition products include: Carbon Dioxide, Carbon Monoxide, Nitrogen Oxides, Sulfur Oxides
Metal Oxide / Oxides

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.

Section -7. HANDLING AND STORAGE

7.1 Handling:

No smoking, eating and drinking during handling.

Avoid exposure during pregnancy.

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.

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

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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.

8.2 Exposure limits

Work place exposure limits (8 hour)

Substance	ACGIH TLV
Manganese Dioxide	TWA: 0.1mg/m ³ (as Mn) 8 hours (Inhalable Fraction)
	TWA: 0.02mg/m ³ (as Mn) 8 hours (Respirable Fraction)
Terphenyl, Hydrogenated	TWA: 4.9 mg/m ³ 8 hours
	TWA: 0.5 ppm 8 hours
Zeolites	TWA: 1mg/m ³ 8 hours (Respirable Fraction)
Talc	TWA: 2mg/m ³ 8 hours (Respirable Fraction)
Carbon Black	TWA: 3mg/m ³ 8 hours (Inhalable Fraction)
Terphenyl	C: 5mg/m ³
	C: 0.53 ppm
MAGNESIUM CARBONATE	TWA: 5mg/m ³ (Respirable Fraction)
	TWA: 15 mg/m ³ 8 hours (Total Dust)

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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9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at: 68 ° F (20 ° C) Liquid
- Flash point: 200 ° F (93 ° C) Method: TCC
- Specific gravity at: 68 ° F (20 ° C) 2.0
- Vapor Density: N/A
- Lower Explosive Limit (% vol.): N/A
- Upper Explosive Limit (% vol.): N/A
- Miscibility in water at 20 ° C: NEGLIGIBLE
- Material Supports Combustion. : Yes
- Ph : 9.0
- % VOLATILE BY VOLUME - 2.0
- Vapor pressure at: 68 ° F (20 ° C) N/A
- Color: BLACK
- Appearance: PASTE
- Odor: NEGLIGIBLE OILY ODOR
- Boiling Point: Unknown

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
- Oxides of nitrogen
- Metal Oxide / Oxides
- Manganese Compounds
- Smoke

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

ACUTE TOXICITY:

PRODUCT:	RESULT	SPECIES	DOSE	EXPOSURE
Manganese Dioxide	LD50 ORAL	Rat	3478 mg/kg	-
Terphenyl,Hydrogenated	LD50 ORAL	Rat	17500 mg/kg	-
Zeolites	LD50 ORAL	Rat	>5 g/kg	-
Carbon Black	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400mg/kg	-
Terphenyl	LD50 Oral	Rat	>1400 mg/kg	-
Magnesium Carbonate	LD50 Oral	Rat	8000mg/kg	-
1, 3-Diphenylguanidine	LD50 Oral	Rat	323mg/kg	-

CARCINOGENICITY:

INGREDIENT	IARC	OSHA	NTP
Zeolites	3	-	-
Carbon Black, Respirable Powder	2B	-	-

Acute Toxicity Estimates:

Oral: 1099.7 mg/kg

Inhalation (gases): 10532.1 ppm

Inhalation (vapors) : 25.75 mg/l

Inhalation (Dust and Mist): 3.511mg/l

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Specific Target Organ Toxicity (STOT)- Single Exposure

1,3-Diphenylguanidine - (Category 3)

Zeolites - (Category 3)

Talc - (Category 3)

This Product is Harmful if Swallowed or Inhaled.

This Product also Causes Serious Eye Irritation.

This Product Causes Skin Irritation, Defatting of the Skin, and May Cause an Allergic Reaction.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Manganese Dioxide - (Category 2)

Potential chronic health effects include the following:

May cause damage to organs through prolonged or repeated exposure. May lead to defatting of the skin and / or irritation.

May lead to allergic reactions.

Suspected of causing cancer.

Suspected of damaging fertility

Target Organs: lungs, skin, central nervous system, blood, kidneys, nervous system, liver, spleen, lymphatic system, cardiovascular system, upper respiratory tract, bone marrow, eye, lens, cornea

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)

Bioaccumulative Potential:

Product	LogPow	BCF	Potential
1,3 Diphenylguanidine	1.69	19.95	Low
Bis(piperidinothiocarbonyl) tetrasulfide	2.8	16.98	Low

Mobility in Soil:

Not Available

13. DISPOSAL CONSIDERATIONS

Recommended incineration or land fill as hazardous waste per Federal, State and local regulations.

React with base and dispose of as hazardous waste per Federal, State and local regulations. Recommended incineration or land fill.

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14. TRANSPORT INFORMATION

DOT: Not regulated
 UN Number: Not regulated
 IATA: Not regulated
 IMDG/IMO: Not regulated
 NMFC: 4620 SUB.5 – CL.60
 Schedule B # 3506.91.0000

15. REGULATORY INFORMATION**Other EU Regulations:**

1,3-Diphenylguanidine - Reproductive (Category 2) H361f (Fertility)

SARA 311/312

Classification: Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition of Ingredients :

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) : Fire Hazard
 tetrasulfide Immediate (acute) health hazard

US Regulations Federal

chemical (s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 (SARA)	Chemical Name	CAS No	Weight %	Threshold limit (Reporting Value)
	Manganese Dioxide	1313-13-9	<65%	unknown

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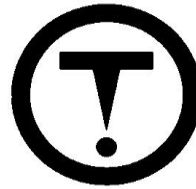
All remaining Constituents are non-hazardous per FED-STD-313 All Constituents are listed in TSCA inventory; complete mixture is excluded Per TSCA Par. 710.4 (d) 95 (6) (7) Constituents are not listed in TSCA 12b CORR. LIST

US Regulations State

California Proposition 65 (Developmental – Female)	MANGANESE DIOXIDE	1313-13-9	< 65%	>=1.0%
Massachusetts	MANGANESE DIOXIDE	1313-13-9	< 65%	>=1.0%
New Jersey	MANGANESE DIOXIDE	1313-13-9	< 65%	>=1.0%
Pennsylvania	MANGANESE DIOXIDE	1313-13-9	<65%	>=1.0%
Rhode Island	MANGANESE DIOXIDE	1313-13-9	<65%	>=1.0%

California Prop 65 Warning :

This Product contains one or more ingredients known by the state of California to cause cancer.



materials Division 2: Materials Causing
Other Toxic Effects:
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):Manganese Dioxide cas#1313-13-9

HEALTH	3	HEALTH	3	
FLAMMABILITY	1	FLAMMABILITY	1	Customer and / or end user is responsible
REACTIVITY	1	REACTIVITY	1	for determining PPE

NFPA

HMIS

Section 16 Other Information

Preparer-Flamemaster/Compliance
Rev A April 2015
Supercedes(Conversion)

Revision Notes: A

Conversion to ANSI format

Containers: Plastic Jars, Metal Cans, Cartridge Kits

Maximum Container Size: 50 Gallons/190 Liters

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

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