
Section -1. Chemical Product and Company Identification

1.1. Product Identifier: CS-3204 Class-A,B,C Part-B Accelerator (all application times)

- Product Name: Fuel Tank Sealant / Accelerator Part-B
- Product reference: CS-3204-A, B, C

NSN: reference

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1.2. Product Use:

- Sealant curing agent

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: (if not manufacturer)**

Technical Contact:
Flamemaster Corp.

Tel: 818-890-1401
Fax: 818-890-6001
www.flamemaster.com

Emergency Contact: (if not manufacturer)**1.4. Emergency Telephone:**

Chemtrec – Chemtrec International
800-424-9300 (North America)
703-527-3887 (Outside North America))

Section -2. HAZARD (S) IDENTIFICATION

Harmful if swallowed.
Harmful if inhaled.
Possible harm to aquatic organisms.
May cause long term adverse effects in the aquatic environment.

Section -3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical family : Mixture of organic compounds

For the hazards of the composition, (MSDS see Section 2).

SUBSTANCE % by weight in the product	R phrases	CAS	EINECS/ELINCS
MANGANESE DIOXIDE < 65%	R20 / R22, R52 / R53	1313-13-9	215-202-6

Section -4. FIRST-AID MEASURES

General: When in doubt or symptoms persist, seek medical attention. Have Material 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: Irrigate with clean, fresh water for at least 15 minutes, holding the eyelids apart, and seek 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

This compound is not flammable/combustible

Extinguishing agents

Recommended: USE extinguishing media according to other materials involved in the fire.

Agents to avoid: Avoid water when the fire involves burning liquid

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 ways.

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.

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.

If the product enters drains or watercourses, inform authority with jurisdiction in accordance with state / local regulations.

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

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	CASS	OSHA	ACGIH TWA
MANGANESE DIOXIDE < 65%	1313-13-9	5 ppm	5mg /m ³

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, keeping working clothes clean.

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 g/cm3
- Vapor Density: > N/A
- Lower Explosive Limit (% vol.): N/A
- Upper Explosive Limit (% vol.): N/A
- Miscibility in water at 20 ° C: Slight
- Ph : 9.0
- Volatile by weight: 1.5 % by volume: 2.0 %
- Vapor pressure at: 68 ° F (20 ° C) N/A
- Color: Black
- Appearance: Sludge/Paste
- Odor: Slight Oily

10. STABILITY AND REACTIVITY

Stable under recommended storage and handling conditions (see MSDS section 7). Exposure to fire event, may produce hazardous decomposition products such as :

- Carbon monoxide

11. TOXICOLOGICAL INFORMATION

There are no data available on the preparation itself. See (MSDS Sections 3 and 15) for details.

Exposure to component 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 include headache, dizziness, fatigue, muscular weakness, drowsiness, and in extreme cases loss of consciousness.

Repeated or prolonged contact with the preparation may result in non-allergic dermatitis and absorption through the skin.

The liquid splashed in the eyes may cause irritation and damage.

12. ECOLOGICAL INFORMATION

There is no data available on the preparation itself. Do not allow the product to enter drains or water ways. See (MSDS Sections 3 and 15)

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

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

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
	MANGANESE DIOXIDE	1313-13-9	55% - 65%	1.0%

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	Not regulated	--	--	--
Illinois	MANGANESE DIOXIDE	1313-13-9	55% - 65%	unknown
Massachusetts	Not regulated	--	--	--
New Jersey	MANGANESE DIOXIDE	1313-13-9	55% - 65%	unknown
Pennsylvania	MANGANESE DIOXIDE	1313-13-9	55% - 65%	unknown
Rhode Island	Not regulated	--	--	--

Canada



Class C - Oxidizing Materials
MANGANESE DIOXIDE

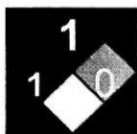


Class D - Poisonous and
Infectious materials
Division 2: Materials Causing
Other Toxic Effects
D2B MANGANESE DIOXIDE

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

Listed National Pollutant Release Inventory 2009 (NPRI): Manganese and it's Compounds/ MANGANESE DIOXIDE CAS 1313-13-9

16. OTHER INFORMATION



NFPA



HMIS



PPE

Full text of S phrases with N° associated to this compound:

- S46 If swallowed, seek medical advice immediately and show this container or label.
- S51 Use only in well-ventilated areas.
- S57 Use appropriate container to avoid environmental contamination.
- S2 Keep out of the reach of children
- S36/37/39: Wear suitable protective clothing, gloves and eye/face protection
- S60: This material and its container must be disposed of as hazardous waste

Full text of R phrases with N° appearing in Section 3:

- R52/53 Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.
 - R20/22 Harmful by inhalation and if swallowed.
-

Preparer:	Flamemaster / Compliance Rev-A March /18/2011 Supersedes (conversion)	Revision Notes:	Conversion to ANSI format
Containers:	plastic jars, metal cans cartridge kits		
Limited Quantity	Not Regulated (DOT)		
Maximum container size	50 Gallons / 190 Liters		

End of Material Safety Data Sheet

Section -1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifier: CS-3204 Part-A Class-C Base (all application times)

- Product Name: Fuel Tank Sealant / Base compound Part-A
- Product reference: CS-3204-C

1.2. Product Use:

- 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: (if not manufacturer)

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

Emergency Contact: (if not manufacturer)

1.4. Emergency Telephone:

Chemtrec – Chemtrec International
800-424-9300 (North America)
703-527-3887 (Outside North America))

Specification:				
NSN Reference:				

Section -2. HAZARD (S) IDENTIFICATION

- Flammable
- Possible adverse risk to the fetus.
- Skin and eye irritant.
- Harmful if swallowed.
- Harmful if inhaled.
- Possible harm to aquatic organisms.
- May cause long term adverse effects in the aquatic environment.

Section -3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical family : Mixture of organic compounds

For the hazards of the composition, (MSDS see Section 2).

SUBSTANCE	R phrases	CAS	EINECS/ELINCS
% by weight in the product			
ALIPHATIC POLYSULFIDE-POLYMER < 60%	R52, R53	68611-50-7	POLYMER
TOLUENE	R63, R48/20, R65, R38, R67, R11	108-88-3	203-625-9

Section -4. FIRST-AID MEASURES

General: When in doubt or symptoms persist, seek medical attention. Have Material 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: Irrigate with clean, fresh water for at least 15 minutes, holding the eyelids apart, and seek 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.

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.

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

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	OSHA	ACGIH TWA
ALIPHATIC POLYSULFIDE-POLYMER < 60%	Not known	Not known
TOLUENE (Methylbenzene)* * can be absorbed through skin	100 ppm	50 ppm

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, keeping working clothes clean.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|--|--|
| • Physical state at: 68 ° F (20 ° C) Liquid | • Ph : 8.5 |
| • Flash point:> 90 ° F (32 ° C) Method: TCC | • Volatile by weight: 13.0 % by volume: 15.0 % |
| • Specific gravity at: 68 ° F (20 ° C) 1.5 g/cm3 | • Vapor pressure at: 68 ° F (20 ° C) 48 mm Hg |
| • Vapor Density: > air | • Color: Off white to grey |
| • Lower Explosive Limit (% vol.): 1.3 (toluene) | • Appearance: Sludge |
| • Upper Explosive Limit (% vol.): 7.1 (toluene) | • Odor: Aromatic |
| • Miscibility in water at 20 ° C: not miscible | • Boiling Point: Unknown |

10. STABILITY AND REACTIVITY

Stable under recommended storage and handling conditions (see MSDS section 7). In case of combustion, may produce hazardous decomposition products such as :

- Carbon monoxide
- Sulfur oxides

11. TOXICOLOGICAL INFORMATION

There are no data available on the preparation itself. See (MSDS 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 include headache, dizziness, fatigue, muscular weakness, drowsiness, 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 may cause irritation and damage.

12. ECOLOGICAL INFORMATION

There is no data available on the preparation itself. Do not allow the product to enter drains or water ways. See (MSDS Sections 3 and 15)

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

EPA hazard class: **D-001 ignitable**

14. TRANSPORT INFORMATION

DOT: § 172.101 HAZARDOUS MATERIALS TABLE

UN Number: 1133

Proper Shipping Name: Adhesives

Labels: Flammable Liquid



Hazard Class: 3 **Subclass:** NO

Packaging Group: III

Limited Quantity:

Passenger aircraft: 60 Liter (16 gallon)

Cargo aircraft only: 220 Liter (58 gallon)

Vessel stowage: A

ERG: 128

NMFC: 4620 SUB.5 – CL.60

Schedule B # 3506.91.0000

IATA:

UN Number: 1133

Proper Shipping Name: Adhesives

Labels: Flammable Liquid

Hazard Class: 3 **Subclass:** NO

Packaging Group: III

Passenger Air Packing Instruction : 309

Passenger aircraft: 60 Liter (16 gallon)

Cargo Air Packing Instruction : 310

Cargo aircraft only: 220 Liter (58 gallon)

IMDG:

UN Number: 1133

Proper Shipping Name: Adhesives

Label: 3

Hazard Class: 3 **Subclass:** NO

Packaging Group: III

EMS No: F, E – S, D

15. REGULATORY INFORMATION

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
	TOLUENE (Methylbenzene)	108-88-3	5% - 12%	1.0%

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)	TOLUENE	108-88-3	5% - 12%	unknown
Massachusetts	TOLUENE	108-88-3	5% - 12%	unknown
New Jersey	TOLUENE	108-88-3	5% - 12%	unknown
Pennsylvania	TOLUENE	108-88-3	5% - 12%	unknown
Rhode Island	TOLUENE	108-88-3	5% - 12%	unknown

Canada



Class B – Flammable

TOLUENE



Class D - Poisonous and
Infectious materials
Division 2: Materials Causing
Other Toxic Effects
D2A TOLUENE
D2B TOLUENE

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

Listed National Pollutant Release Inventory (NPRI): TOLUENE CAS: 108-88-3

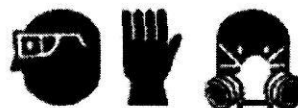
16. OTHER INFORMATION



NFPA



HMIS



PPE

Full text of S phrases with N° associated to this compound:

- S46 If swallowed, seek medical advice immediately and show this container or label.
- S16 Keep away from sources of ignition - No smoking.
- S51 Use only in well-ventilated areas.
- S57 Use appropriate container to avoid environmental contamination.
- S2 Keep out of the reach of children
- S3/9/49: Keep only in the original container in a cool, well-ventilated place
- S36/37/39: Wear suitable protective clothing, gloves and eye/face protection
- S60: This material and its container must be disposed of as hazardous waste

Full text of R phrases with N° appearing in Section 3:

- R52/53 Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.
- R63 Possible risk of harm to the unborn child.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R65 Harmful: may cause lung damage if swallowed.
- R38 Irritating to skin.
- R67 Vapors may cause drowsiness and dizziness.
- R11 HIGHLY FLAMMABLE.

Preparer:	Flamemaster / Compliance Rev-A March/18/2011 Supersedes (conversion)	Revision Notes: A	Conversion to ANSI format
Containers:	plastic jars, metal cans cartridge kits		
Limited Quantity	See MSDS Section 14		
Maximum container size	50 Gallons / 190 Liters		

End of Material Safety Data Sheet