## Section -1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifier: CS-3204 Part A Class C Base (ALL APPLICATION TIMES)
- Product Name: Integral Fuel Tank Sealant / Base compound Part-A
- Product reference: CS-3204 Part A Class C Compound

**1.2. Product Use:**
- Integral Fuel Tank Sealing Compound

| **1.3. Manufacturer's Name:** | **1.3.1 Suppliers Name ( if not manufacturer )** |
|---|---|
| **CAGE Code: 14439**<br>**Flamemaster Corp.**<br>**Chem Seal Division**<br>**13576 Desmond Street**<br>**Pacoima, CA 91333 – USA** | |
| **Technical Contact:**<br>**Flamemaster Corp.**<br>**Tel**: 818-890-1401<br>**Fax:** 818-890-6001<br>www.flamemaster.com | **1.4. Emergency Telephone:**<br>Chemtrec – Chemtrec International<br>800-424-9300 ( North America)<br>703-527-3887 (Outside North America)) |

**SPECIFICATION: IAW AMS-S-8802 BASE COMPOUND/ PART A CLASS C**

| | | | | | |
|---|---|---|---|---|---|
| **NSN:** | 8030-01-048-3772<br>CS3204 C20 PINT | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## 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, (SDS see Section 2).

GHS CLASSIFICATION:LIQUID POLYSULFIDE POLYMER // OSHA HAZARDS: TARGET ORGAN EFFECT,IRRITANT,FLAMMABLE LIQUID
EYE IRRITATION (CATEGORY 2)
SKIN IRRITATION (CATEGORY 2)
SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE-(CATEGORY 3)
AQUATIC, CHRONIC (CATEGORY 3)

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.

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS): TOLUENE
FLAMMABLE LIQUIDS (CATEGORY 2),H225
SKIN IRRITATION (CATEGORY 2),H315
REPRODUCTIVE TOXICITY (CATEGORY 2),H361
SPECIFIC TARGET ORGAN TOXICITY-SINGLE EXPOSURE-(CATEGORY 3),CENTRAL NERVOUS SYSTEM,H336
SPECIFIC TARGET ORGAN TOXICITY-REPEATED EXPOSURE (CATEGORY 2),H373
ASPIRATION HAZARD (CATEGORY 1),H304
ACUTE AQUATIC TOXICITY (CATEGORY 2),H401

| **SUBSTANCE**<br>**% by weight in the product** | **H&P STATEMENTS** | **CAS** | **EINECS/ELINCS** |
|---|---|---|---|
| LIQUID POLYSULFIDE-POLYMER < 70% | H319,H335,H315,H412,H223, P210,P270,P305+P351+P338 | 68611-50-7 | POLYMER |
| | +P313,P306+P361,P370+P260 | | |
| TOLUENE (Methylbenzene) < 12% | H225,H304,H315,H319,H332,H336, H361,H371,H401, P210P260,P281,P301+P310,P305+ P351+ P338,P331 | 108-88-3 | 203-625-9 |

## 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:** 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.

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.

## 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 < 70% | Not known | Not known |
| TOLUENE (Methylbenzene)* < = 12% | 100 ppm | 20 ppm |
| * can be absorbed through skin | | |

**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.

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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at: 68 º F (20 º C) Liquid
- Flash point: 90 ° F (32 ° C) Method: TCC
- Specific gravity at: 68 ° F (20 ° C) 1.52 g/cm3
- Vapor Density: NIL
- Lower Explosive Limit (% vol.): 1.3 (TOLUENE)
- Upper Explosive Limit '(% vol.): 7.1 (toluene)
- Miscibility in water at 20 º C: Negligible
- Ph : 8.5
- Volatile by Volume % : 15
- Vapor pressure at: 68 º F (20 º C) 2 mm Hg
- Color: Off white to white
- Appearance: Paste
- Odor: Polysulfide Odor
- Boiling Point: N/A

## 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
- $H_2S$,CO,$CO_2$,$SO_2$,SMOKE
- Sulfur oxides

## 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 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 (SDS 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: § 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

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.

## 15. REGULATORY INFORMATION

**US Regulations Federal**

| | Chemical Name | CAS No | Weight % | Threshold limit |
|---|---|---|---|---|
| chemical (s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 (SARA) | TOLUENE (Methylbenzene) | 108-88-3 | 5% - 12% | 1.0% |
| | LIQUID POLYMER | 68611-50-7 | 50%-75% | UNKNOWN |

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 |
| California Proposition 65 (Developmental – Female) | LIQUID POLYMER | 68611-50-7 | 50%-75% | unknown |
| | LIQUID POLYMER | 68611-50-7 | 50%-75% | |
| Massachusetts | LIQUID POLYMER | 68611-50-7 | 50%-75% | unknown |
| New Jersey | LIQUID POLYMER | 68611-50-7 | 50%-75% | unknown |
| Pennsylvania | LIQUID POLYMER | 68611-50-7 | 50%-75% | unknown |
| Rhode Island | LIQUID POLYMER | 68611-50-7 | 50%-75% | unknown |

**Canada**

**Class B – Flammable**
**TOLUENE**

**Class D - Poisonous and Infectious materials Division 2: Materials Causing Other Toxic Effects D2A TOLUENE D2B TOLUENE**
Liquid Polysulfide Polymer CAS#68611-50-7

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 Liquid Polysulfide Polymer cas#68611-50-7

## 16. OTHER INFORMATION


**NFPA**


**HMIS**

**PPE**

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.

Full text of P statements with Nº 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.

**Full text of H statements with Nº appearing in Section 3:**

- H412: Harmful to aquatic life with long lasting effects
- H360Fd: May damage fertility. Suspected of damaging the unborn child.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H304: May be fatal if swallowed and enters airways.
- H315: Causes skin irritation
- H336: May cause drowsiness or dizziness
- H318: Causes serious eye damage
- H302+H332: Harmful if swallowed. Harmful if inhaled
- H340+H350: May cause genetic defects. May cause cancer.
- H225: Highly flammable liquid and vapor.

| | | | |
|---|---|---|---|
| Preparer: | Flamemaster / Compliance<br>Rev-A June/09/2010<br>Supersedes (conversion) | Revision Notes: A | Conversion to ANSI format |
| Containers: | plastic jars, metal cans<br>cartridge kits | | |

Limited Quantity See SDS Section 14

Maximum container size 50 Gallons / 190 Liters

**End of Safety Data Sheet**

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.

**Flamemaster Corp.**
**13576 Desmond Street**
**Pacoima, CA 91331 - USA**

**SAFETY DATA SHEET**
**FEBRUARY 2014**

**File:** CS3204BC GSA 07-10
INTEGRAL FUEL TANK
**SEALANT CATALYST**

## Section -1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifier: CS-3204 Part B Class C (all application times)
- Product Name: Integral Fuel Tank Sealant / Catalyst Part B
- Product reference: CS-3204-B

**1.2. Product Use:**
-Integral Fuel Tank Sealant

| **1.3. Manufacturer's Name:** | **1.3.1 Suppliers Name ( if not manufacturer )** |
|---|---|
| **CAGE Code: 14439**<br>**Flamemaster Corp.**<br>**Chem Seal Division**<br>**13576 Desmond Street**<br>**Pacoima, CA 91333 – USA** | |
| **Technical Contact:**<br>**Flamemaster Corp.**<br>**Tel**: 818-890-1401<br>**Fax:** 818-890-6001<br>www.flamemaster.com | **1.4. Emergency Telephone:**<br>Chemtrec – Chemtrec International<br>800-424-9300 ( North America)<br>703-527-3887 (Outside North America)) |

**Specification: IAW AMS-S-8802** **Catalyst Part B** **CLASS C**

| **NSN:** | 8030-01-048-3772<br>CS3204 C20 PINT | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## Section -2. HAZARD ( S ) IDENTIFICATION

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, ( SDS see Section 2).

CHEMICAL NAME: MANGANESE DIOXIDE
OSHA HAZARDS: TARGET ORGAN EFFECT,TOXIC BY INHALATION
TARGET ORGANS: NERVES, LUNGS
GHS CLASSIFICATION: MANGANESE DIOXIDE
ACUTE TOXICITY,ORAL (CATEGORY 5)
ACUTE TOXICITY,INHALATION (CATEGORY 4)

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.

| SUBSTANCE<br>% by weight in the product | H&P Statements | CAS | EINECS/ELINCS |
|---|---|---|---|
| Manganese Dioxide <65% | H272,H302,H332,H373 | 1313-13-9 | 215-202-6 |
| Manganese Dioxide <65% | P280,P210,P221,P371+P380+ P375P304+P340,P312 | 1313-13-9 | 215-202-6 |

**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:** 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.

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.

**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 TLV |
|---|---|---|
| Manganese Dioxide <65%<br><br>* can be absorbed through skin | 5 ppm | 5mg/m³ |

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at: 68 º F (20 º 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 º C: NEGLIGIBLE
- Ph : 9.0
- % VOLATILE BY VOLUME 2.0
- Vapor pressure at: 68 º F (20 º 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
- Oxides of nitrogen, Carbon, Manganese Compounds

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.

## 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

## 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)

## 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.

## 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

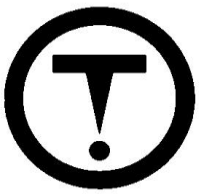
**US Regulations Federal**

| 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 | <65% | Unknown |

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% | unknown |
| Massachusetts | **MANGANESE DIOXIDE** | 1313-13-9 | < 65% | unknown |
| New Jersey | **MANGANESE DIOXIDE** | 1313-13-9 | < 65% | unknown |
| Pennsylvania | **MANGANESE DIOXIDE** | 1313-13-9 | <65% | unknown |
| Rhode Island | **MANGANESE DIOXIDE** | 1313-13-9 | <65% | unknown |



**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

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.

| | |
|---|---|
| HEALTH | 1 |
| FLAMMABILITY | 1 |
| REACTIVITY | 1 |
| (OSHA) PPE | G |

**HMIS** **PPE**

**Full text of P statements with Nº associated to this compound:**

Full text of P statements with Nº 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.

**Full text of H statements with Nº associated to this compound:**

- H412: Harmful to aquatic life with long lasting effects
- H360Fd: May damage fertility. Suspected of damaging the unborn child.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H304: May be fatal if swallowed and enters airways.
- H315: Causes skin irritation
- H336: May cause drowsiness or dizziness
- H318: Causes serious eye damage
- H302+H332: Harmful if swallowed. Harmful if inhaled
- H340+H350: May cause genetic defects. May cause cancer.
- H270: May Cause or Intensify Fire;Oxidizer

Preparer-Flamemaster/Compliance Revision Notes: A Conversion to ANSI format
Rev A June 2010
Supercedes(Conversion)

Containers: Plastic Jars, Metal Cans, Cartridge Kits

Maximum Container Size: 50 Gallons/190 Liters

END OF SAFETY DATA SHEET

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.