

MM[®] SHD/SHS/SSD

Expansion Joint

**Single Healing Seismic Seal System (SHS Series)
Self Healing Dual Seismic Seal System (SHD Series) Split
Slab Dual Seismic Foam Seal System (SSD Series)**

The products listed below along with their corresponding Safety Data Sheets (SDS) are contained in this document:

- LokCrete Elastomeric Concrete
 - Part A - Binder
 - Part B - Activator
 - Part C Aggregate

- MM High Strength Epoxy
 - Part A
 - Part B

- MM Liquid Rubber

- Flexible Sealant

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SAFETY DATA SHEET

Issue Date 01.05.2017



SDS

Safety Data Sheet

LOKCRETE ELASTOMERIC CONCRETE PART A

SDS Number:

Revision Date: 1/3/2015

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1	PRODUCT AND COMPANY IDENTIFICATION
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Manufacturer

MM Systems Corporation
50 MM Way
Pendergrass, GA 30567

Phone: 706-824-7500
Fax: 706-824-7501
Email: info@mmsystemscorp.com
Web: www.mmsystemscorp.com

Product Name: LOKCRETE ELASTOMERIC CONCRETE PART A
Revision Date: 1/3/2015

Transportation emergency phone number: ChemTel Inc. (800)255-3924, +1 (813)248-0585

2	HAZARDS IDENTIFICATION
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NFPA: Health = 1, Fire = 0, Reactivity = 0
HMIS III: H1/F0/PH0



HMIS III	
HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARDS	0
PERSONAL PROTECTION	

The product is not classified according to the Globally Harmonized System (GHS).
The product is not classified according to the CLP regulation.

H226 Flammable liquid and vapour

H304 May be fatal if swallowed and enters airways



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COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
7631-86-9	25-50%	Silica
770-35-4	<10%	2-Propanol, 1-phenoxy-
64742-95-6	<10%	Solvent naphtha, petroleum, light arom.
13463-67-7	<10%	Titanium dioxide
1317-61-9	<10%	Iron oxide (Fe3O4)
50-00-0	<0.1%	Formaldehyde

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FIRST AID MEASURES

General information: No special measures required.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Clean with water and soap.

If skin irritation continues, consult a doctor.

After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

Most important symptoms and effects, both acute and delayed

Gastric or intestinal disorders

Dizziness

Headache

Hazards No further relevant information available.

Indication of any immediate medical attention and special treatment needed

Treat skin and mucous membrane with antihistamine and corticoid preparations.



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5	FIRE FIGHTING MEASURES
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Autoignition Temp: >500 °F / >260 °C

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: None.

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information Cool endangered receptacles with water fog or haze.

6	ACCIDENTAL RELEASE MEASURES
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Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste

7	HANDLING AND STORAGE
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Handling Precautions: Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Storage Requirements: Information about fire - and explosion protection: No special measures required.
Requirements to be met by storerooms and receptacles:
Avoid storage near extreme heat, ignition sources or open flame.
Store in a cool location.

Information about storage In one common storage facility.
Store away from foodstuffs.
Do not store together with oxidizing and acidic materials.

Further information about storage conditions:
Store in cool, dry conditions in well sealed receptacles.
Keep container tightly sealed.



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8	EXPOSURE CONTROLS/PERSONAL PROTECTION
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Engineering Controls: Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Ensure compliance yo all relevant OSHA regulations.

Personal Protective Equip: General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Respiratory protection:
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.

Protection of hands:
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
For the permanent contact gloves made of the following materials are suitable:
Butyl rubber, BR
Nitrile rubber, NBR
Neoprene gloves

Eye protection:
Safety glasses

Body protection: Protective work clothing

Limitation and supervision of exposure into the environment
No further relevant information available.

Risk management measures
No further relevant information available.

Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

DNELs No further relevant information available.
PNECs No further relevant information available.



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9	PHYSICAL AND CHEMICAL PROPERTIES
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Appearance:	Pigmented Liquid	VOC:	35,6 g/L
Physical State:	Liquid	Auto-Ignition Temp:	>500 °F / >260 °C

10	STABILITY AND REACTIVITY
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Stability:	No decomposition if used and stored according to specifications.
Conditions to Avoid:	Store away from oxidizing agents. Keep away from heat and direct sunlight.
Materials to Avoid:	Reacts with strong acids and alkali.
Hazardous Decomposition:	Hydrocarbons Carbon monoxide and carbon dioxide Toxic metal oxide smoke
Hazardous Polymerization:	Will not occur.

11	TOXICOLOGICAL INFORMATION
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LD/LC50 values relevant for classification:
64742-95-6 Solvent naphtha (petroleum), light arom.
Oral LD50 >6800 mg/kg (rat)
Dermal LD50 >3400 mg/kg (rab)
Inhalative LC50/4 h >10,2 mg/l (rat)

Primary irritant effect:
on the skin: Slight irritant effect on skin and mucous membranes.
on the eye: Slight irritant effect on eyes.

Sensitization: No sensitizing effects known.

Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful



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12	ECOLOGICAL INFORMATION
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Aquatic toxicity: No further relevant information available.

Persistence and degradability The product is partially biodegradable. Significant residuals remain.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Due to mechanical actions of the product (e.g. agglutinations) damages may occur.

Additional ecological information:

General notes:

This statement was deduced from products with a similar structure or composition.

The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary. Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13	DISPOSAL CONSIDERATIONS
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Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.



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14	TRANSPORT INFORMATION
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UN-Number DOT, ADR, ADN, IMDG, IATA	N/A
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Polyester Resin Based Coating
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	N/A
Packing group DOT, ADR, IMDG, IATA	N/A
Marine pollutant	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation"	---

15	REGULATORY INFORMATION
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COMPONENT / (CAS/PERC) / CODES

- *Silica (7631869 25-50%) MASS, NJHS, PA, TSCA
- *2-Propanol, 1-phenoxy- (770354 <10%) TSCA
- *Solvent naphtha, petroleum, light arom. (64742956 <10%) TSCA
- *Titanium dioxide (13463677 <10%) MASS, OSHAWAC, PA, TSCA, TXAIR
- *Iron oxide (Fe3O4) (1317619 <10%) TSCA
- *Formaldehyde (50000 <0.1%) CERCLA, CSWHS, EHS302, EPCRAWPC, HAP, MASS, NJEHS, NJHS, NRC, OSHAHTS, OSHAPSM, PA, PROP65, SARA313, TOXICRCRA, TSCA, TXAIR, TXHWL

REGULATORY KEY DESCRIPTIONS

MASS = MA Massachusetts Hazardous Substances List
 NJHS = NJ Right-to-Know Hazardous Substances
 PA = PA Right-To-Know List of Hazardous Substances
 TSCA = Toxic Substances Control Act

OSHAWAC = OSHA Workplace Air Contaminants
 TXAIR = TX Air Contaminants with Health Effects Screening Level

CERCLA = Superfund clean up substance
 CSWHS = Clean Water Act Hazardous substances
 EHS302 = Extremely Hazardous Substance
 EPCRAWPC = EPCRA Water Priority Chemicals
 HAP = Hazardous Air Pollutants
 NJEHS = NJ Extraordinarily Hazardous Substances
 NRC = Nationally Recognized Carcinogens
 OSHAHTS = OSHA Hazardous and Toxic Substances
 OSHAPSM = OSHA Chemicals Requiring process safety management
 PROP65 = CA Prop 65
 SARA313 = SARA 313 Title III Toxic Chemicals
 TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)
 TXHWL = TX Hazardous Waste List



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16	OTHER INFORMATION
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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

R10 Flammable.

R65 Harmful: may cause lung damage if swallowed.



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1	PRODUCT AND COMPANY IDENTIFICATION
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Manufacturer

MM Systems Corporation
50 MM Way
Pendergrass, GA 30567

Phone: 706-824-7500
Fax: 706-824-7501
Email: info@mmsystemscorp.com
Web: www.mmsystemscorp.com

Product Name: LOKCRETE ELASTOMERIC CONCRETE PART B
Revision Date: 1/3/2015

Transportation emergency phone number: ChemTel Inc. (800)255-3924, +1 (813)248-0585

2	HAZARDS IDENTIFICATION
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NFPA: Health = 2, Fire = 1, Reactivity = 1
HMIS III: H*2/F1/PH1



HMIS III		
HEALTH	<input checked="" type="checkbox"/>	2
FLAMMABILITY		1
PHYSICAL HAZARDS		1
PERSONAL PROTECTION		

GHS Signal Word:
DANGER

GHS Hazard Pictograms:



GHS Classifications:
Health, Skin corrosion/irritation, 2
Health, Respiratory or skin sensitization, 1 Skin
Health, Serious Eye Damage/Eye Irritation, 2 A
Health, Acute toxicity, 4 Inhalation



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Health, Respiratory or skin sensitization, 1 Respiratory
Health, Specific target organ toxicity - Single exposure, 3
Health, Carcinogenicity, 2
Health, Specific target organ toxicity - Repeated exposure, 2

GHS Phrases:

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms of breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

GHS Precautionary Statements:

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P370 - In case of fire: _
P378 - Use CO₂, foam, extinguishing powder for extinction
P403+233 - Store in a well ventilated place. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local regulation

Persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product. Symptoms affecting the respiratory tract can also occur several hours after overexposure. Dust, vapors and aerosols are the primary risk to the respiratory tract.

3

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
101-68-8	25-50%	4,4'-Methylenediphenyl diisocyanate
9016-87-9	25-50%	Isocyanic acid, polymethylenepolyphenylene ester
26447-40-5	10-20%	Benzene, 1,1'-methylenebis[isocyanato-



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4	FIRST AID MEASURES
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- Inhalation: Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
- Skin Contact: Immediately wash with water and soap and rinse thoroughly. Immediately remove any clothing soiled by the product. If skin irritation continues, consult a doctor.
- Eye Contact: Protect unharmed eye. Rinse opened eye for several minutes under running water. Remove contact lenses if worn, if possible. Rinse opened eye for several minutes under running water. Then consult a doctor.
- Ingestion: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

Most important symptoms and effects, both acute and delayed

Asthma attacks
Allergic reactions
Breathing difficulty
Coughing

Hazards

Danger of impaired breathing.
Danger of pulmonary oedema.
Danger of pneumonia.
Danger of convulsion.
Danger of disturbed cardiac rhythm.

Indication of any immediate medical attention and special treatment needed
Contains isocyanates. Consult literature for specific antidotes.
Medical supervision for at least 48 hours.
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
Monitor circulation, possible shock treatment.
Later observation for pneumonia and pulmonary oedema.
If necessary oxygen respiration treatment.
Treat skin and mucous membrane with antihistamine and corticoid preparations.



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5	FIRE FIGHTING MEASURES
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Flash Point: 226 °C

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water.

Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Hydrogen cyanide (HCN)

Carbon monoxide (CO)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information Cool endangered receptacles with water spray.

Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.

Advice for fire-fighters:

During fire-fighting respirator with independent air-supply and airtight garment is required.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

Unsuitable extinguishing media: High volume water jet

6	ACCIDENTAL RELEASE MEASURES
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Isolate area and prevent access.

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to regulations.

Ensure adequate ventilation.

Additional Spill Procedures/Neutralization: Neutralization solutions:

(1) Colorimetric Laboratories Inc. (CLI) decontamination solution.

(2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% npropanol.

(3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).

(4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.



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7	HANDLING AND STORAGE
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Handling Precautions:

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.
Keep respiratory protective device available.

Storage Requirements:

Requirements to be met by storerooms and receptacles:

Provide ventilation for receptacles.
Store in a cool location.
Protect from humidity and water.
Avoid storage near extreme heat, ignition sources or open flame.

Information about storage in one common storage facility:

Store away from water.
Store away from foodstuffs.
Do not store together with oxidizing and acidic materials.

Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
Protect from humidity and water.
Protect from heat and direct sunlight.
Keep container tightly sealed.



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EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Personal Protective Equip:

Ensure compliance yo all relevant OSHA regulations.
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

Respiratory protection:

An air-supplied respirator must be worn during spray applications, during long-term (over 1 hour) exposures when the product is heated or in environments of high concentrations near the TLV, an air-purifying respirator equipped with organic cartridges or canisters and dust filters can be used. However, due to the poor warning properties of this product, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Butyl rubber, BR
Nitrile rubber, NBR

Eye protection:

Contact lenses should not be worn.
Safety glasses with side shields or face shield strongly suggested.

Body protection: Use protective suit.

Limitation and supervision of exposure into the environment

No further relevant information available.

Risk management measures

Organizational measures should be in place for all activities involving this product.



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Control parameters

Ingredients with limit values that require monitoring at the workplace:

101-68-8 4,4'-methylenediphenyl diisocyanate

PEL (USA) Short-term value: C 0,2 mg/m³, C 0,02 ppm

REL (USA) Short-term value: C 0,2* mg/m³, C 0,02* ppm, Long-term value: 0,05 mg/m³, 0,005 ppm, *10-min

TLV (USA) 0,051 mg/m³, 0,005 ppm

EL (Canada) Short-term value: C 0,01 ppm, Long-term value: 0,005 ppm, Skin; S

EV (Canada) 0,005 ppm

9	PHYSICAL AND CHEMICAL PROPERTIES
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Appearance:	Clear Brown Liquid	Odor:	Slightl characteristic
Physical State:	Liquid	Flash Point:	226 °C
Spec Grav./Density:	1.198 kg/m ³	Auto-Ignition Temp:	208 °C (406 °F)
Boiling Point:	208 °C (406 °F)		

10	STABILITY AND REACTIVITY
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Stability:	No decomposition if used and stored according to specifications.
Conditions to Avoid:	Keep ignition sources away - Do not smoke. Moisture. Keep away from heat and direct sunlight. Store away from oxidizing agents.
Materials to Avoid:	Reacts with water. Reacts with oxidizing agents. Reacts with alkali, amines and strong acids. Contact with acids releases toxic gases. Reacts with peroxides and other radical forming substances. Reacts with certain metals.
Hazardous Decomposition:	Carbon monoxide and carbon dioxide Nitrogen oxides (NO _x) Hydrogen cyanide (prussic acid) Poisonous gases/vapours
Hazardous Polymerization:	Polymerises at about 200 °C with evolution of CO ₂ .



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TOXICOLOGICAL INFORMATION

LD/LC50 values relevant for classification:
101-68-8 4,4'-methylenediphenyl diisocyanate
Oral LD50 2200 mg/kg (mouse)

Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.

Sensitization:
Sensitization possible through inhalation.
Sensitization possible through skin contact.

Subacute to chronic toxicity: Toxic and/or corrosive effects may be delayed up to 24 hours.

Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful Irritant

Acute effects (acute toxicity, irritation and corrosivity):
In addition to local irritant manifestations, there is a narcotic effect when inhaling high concentrations, with the danger of central respiratory arrest.

Sensitisation: Sensitization possible by inhalation and/or dermal contact.

Repeated dose toxicity:
May cause damage to organs through prolonged or repeated exposure .
Repeated exposures may result in skin and/or respiratory sensitivity.



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12	ECOLOGICAL INFORMATION
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Aquatic toxicity: The material is harmful to the environment.
Persistence and degradability The product is partly biodegradable. Significant residuals remain.
Bioaccumulative potential Does not accumulate in organisms
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Harmful to fish

Additional ecological information:

General notes:

This statement was deduced from the properties of the single components.

Avoid transfer into the environment.

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13	DISPOSAL CONSIDERATIONS
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Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Solvent naphtha

14	TRANSPORT INFORMATION
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UN-Number DOT, ADR, ADN, IMDG, IATA	N/A
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Aromatic Isocyanate Prepolymer
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	N/A
Packing group DOT, ADR, IMDG, IATA	N/A
Marine pollutant	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation"	---



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REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*4,4'-Methylenediphenyl diisocyanate (101688 25-50%) CERCLA, HAP, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

*Isocyanic acid, polymethylenepolyphenylene ester (9016879 25-50%) SARA313, TSCA

*Benzene, 1,1'-methylenebis[isocyanato- (26447405 10-20%) TSCA

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
HAP = Hazardous Air Pollutants
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
OSHA = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level

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OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: MM High Strength Epoxy Part A

Manufacture/Supplier Trade Name:

Manufacture/Supplier Article Number:

Recommended uses of the product and restrictions on use: Concrete patching/bonding

Manufacturer Details:

MM Systems Corporation

50 MM Way

Pendergrass, GA 30567

(706)824-7500

Emergency telephone number:

Infotrac 800-535-5053

SECTION 2: Hazards Identification

Classification of the substance or mixture:



Irritant

Skin irritation, category 2

Eye irritation, category 2A

Skin sensitization, category 1



Environmentally Damaged

Chronic hazards to the aquatic environment, category 2

Signal word: Warning

Hazard statement:

Harmful if swallowed

Causes skin irritation

Causes serious eye irritation

Toxic to aquatic life with long lasting effects

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

Precautionary statements:

Keep container tightly closed

If medical advice is needed, have product container or label at hand

Keep out reach of children

Read label before use

Avoid breathing dust/gas/mist/vapors/spray

Wash skin thoroughly after handling

Contaminated work clothing should not be allowed out of the workplace

Avoid release to the environment

Wear protective gloves/protective clothing/eye protective/face protection

IF ON SKIN: Wash with soap and water

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

If skin irritation or a rash occurs. Get medical advice/attention

Take off contaminated clothing and wash before reuse

Collect spillage

Store locked up

Dispose of contents and container as instructed in Section 13

Other Non-GHS Classification: none

SECTION 3: Composition/information on ingredients

Ingredients

CAS 25068-38-6	BISPHENOL-a-(EPICHLORHYDRIN) AND EPOXY RESIN	20-30%
CAS 2461-15-6	[[[2-ETHYLHEXYL]OXY]METHYL]OXIRANE	3-6%
CAS 13463-67-7	Titanium dioxide	2-3%
CAS 14808-60-7	Silicon dioxide	50-70%
CAS 12174-11-7	Attapulgite clay	6-8%

Percentages are by weight

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position.

After skin contact:

Wash hands and exposed skin with soap and plenty of water.

After eye contact:

Seek medical attention. Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes

Remove contact lenses while rinsing

After swallowing:

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention

Most important symptoms and effects, both acute and delayed:

Shortness of breath, Headache, Nausea, Dizziness, Irritation-all routes of exposure. Acute pneumoconiosis or silicosis from overwhelming exposure to crystalline silica dust has occurred. Lungs may be affected by repeated or prolonged exposure to fibers, resulting in fibrosis. This substance is possible carcinogenic to humans. Persons with impaired respiratory function may be more susceptible to the effects of this substance. Smoking can increase the risk of lung injury.

Indication of an 7y immediate medical attention and special treatment needed

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam

Unsuitable extinguishing agents: None

Advice for firefighter:

Protective equipment: Wear protective eyewear, gloves, and clothing. Refer to section

Additional information (precautions)

Avoid inhaling gases, fumes, dust, mist, and aerosols. Avoid contact with skin, eyes and clothing

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ensure adequate ventilation. Ensure that air-handling systems are operational

Environmental precautions:
Should not be released into environment. Prevent from reaching drains, sewer, or waterway

Methods and material for containment and cleaning up:
Soak up with inert absorbent material and dispose of as hazardous waste. Wear protective eyewear, gloves, and clothing. Refer to section 8. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to section 13. Keep in suitable closed containers for disposal.
Reference to other sections: none

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling;
Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substance.

Conditions for safe storage, including any incompatibilities:
Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed, Store away from incompatible materials

SECTION 8: Exposure controls/personal protection

Control Parameters: 13463-67-7, Titanium dioxide, ACGIH TLV: 10, OSHA PEL: 10

Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls To keep the airborne concentrations of vapor and mist below the applicable workplace exposure limits indicated above. (Occupational Exposure-OELS)

Respiratory protection: Not required under normal conditions of use. Where risk Assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

Protection of skin:	(US) or type P3 (EN143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment. Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer service. Avoid skin contact with used gloves. Wear protective clothing.
Eye protection:	Faceshield (8-inch minimum) with tightly fitting safety goggles are appropriate eyewear. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
General hygienic measures:	Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before rewearing wash contaminated clothing.

SECTION 9: Physical and chemical properties

Appearance (physical State, color)	white, gritty paste	Explosion limit lower	Not determined
Odor:	Slight sweet odor	Explosion limit upper	Not determined
Odor threshold:	Not Determined	Vapor pressure at 20⁰	Not determined
PH-value:	Not Determined	Vapor density	Not determined
Melting/Freezing Point:	Not Determined	Relative density	1.85
Boiling point/Range:	Not Determined	Solubilities	Insoluble in water
		Partition coefficient (n-octanol/water)	Not determined
Flash point(closed cup):	Not Determined	Auto/self-ignition Temperature	Not determined
Evaporation rate:	Not Determined	Decomposition Temp	Not determined
Flammability (solid Gaseous)	Not Determined	Viscosity	a. Kinematic Not determined b. Dynamic: Not determined
Density at 20⁰	Not Determined		

SECTION 10: Stability and reactivity

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

Reactivity:

Nonreactive under normal conditions

Chemical stability:

Stable under normal conditions

Possible hazardous reactions:

None under normal conditions

Conditions to avoid:

Incompatible materials

Incompatible materials:

Acids, Bases, Oxidizing agents, Hydrogen fluoride, Acetylene and ammonia

Hazardous decomposition products:

25068-38-6: Strong oxidizing, acids, amines, and bases

SECTION 11: Toxicological information
--

Acute Toxicity:

Oral:

25068-38-6 LD50 Oral-rat-13,600 mg/kg

2461-15-6 LD50 Oral-rat-7,800 mg/kg

Inhalation:

N/A

Chronic Toxicity:

Inhalation:

May cause respiratory irritation

Skin corrosion/irritation:

1408-60-7

Serious eye damage/irritation:

14808-60-7

Respiratory or skin sensitization:

May cause skin sensitization in some individuals

Carcinogenicity:

N/A

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

Reproductive Toxicity: No additional information

STOT-single and repeated exposure:

2461-15-6: Inhalation-May cause respiratory irritation

Additional toxicological information: No additional information

SECTION 12: Ecological information

Ecotoxicity:

2461-15-6: LC50-Carassius(goldfish)-14mg/l-24 h

13463-67-7: LC50-Other fish->1,000 mg/l-96 h

13463-67-7: EC50-Daphnia magna(Water flea)->1,000 mg/l-48 h

Persistence and degradability:

25068-38-6: Result: According to the results of test of biodegradability this product is not readily biodegradable. 1217-11-7: long term degradation products may arise.

Bioaccumulative potential: No additional information

Mobility in soil: no additional information

Other adverse effects: no additional information

SECTION 13: Disposal considerations

Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as usual product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

SECTION 14: Transport information

US DOT

Not-Regulated

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

UN Number: 3082
ADR,AND,DOT,IMDG,IATA

Limited Quantity : NONE

Bulk: Non Bulk

RQ (if applicable): none
Proper shipping name: Environmentally
Hazardous substance, liquid, n.o.s.
Hazardous substance, liquid, n.o.s.
(reaction product: bisphenol-A-
(epichlorhydrin) and epoxy resin(number
Average molecular weight <=700)

RQ (if applicable): none
Proper shipping name: Environmentally
Hazardous substance, liquid, n.o.s.
Hazardous substance, liquid, n.o.s.
(reaction product: bisphenol-A-
(epichlorhydrin) and epoxy resin(number
Average molecular weight <=700)

Hazard Class: 9

Hazard class: 9

Packing Group: III

Packing Group: III

Marine Pollutant(if applicable): no

Marine Pollutant (if applicable): no

SECTION 15: regulatory information

United States (USA)

SARA SECTION 311/312 (Specific toxic chemical listings):
Acute

SARA SECTION 311/312 (Specific toxic chemical listings):
None of the ingredients are listed.

RCRA (hazardous waste code):
None of the ingredients are listed.

TSCA (Toxic substance control act)
All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
None of the ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproduction toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproduction toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part A

Canada

Canadian Domestic Substance list (DSL)

None of the ingredients are listed.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take these precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of the material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 2-10

HMIS: 3-1-0

GHS Full Text Phrases: None

Abbreviations and Acronyms: None

Effective date: 09.15.2015

Last updated: 09.15.2015

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: MM High Strength Epoxy Part B

Manufacture/Supplier Trade Name:

Manufacture/Supplier Article Number:

Recommended uses of the product and restrictions on use: High Strength Epoxy

Manufacturer Details:

MM Systems Corporation

50 MM Way

Pendergrass, GA 30567

706-824-7500

Emergency telephone number:

Infotrac 800-535-5053

SECTION 2: Hazards Identification

Classification of the substance or mixture:



Irritant

Skin irritation, category 2

Eye irritation, category 2A

Skin sensitization, category 1

Specific target organ toxicity following single exposure, category 1

Acute toxicity(oral,dermal,inhalation), category 1



Health hazard:

Reproductive toxicity, category 2



Skin Corrosion/irritation-Skin irritation 2

Skin sensitizer 1

Eye irritation 2

STOT single exposure 3

Acute toxicity-Oral-Acute tox. 4

Reproductive toxicity-repr. 2

Signal word: Danger

Hazard statement:

Harmful if swallowed

Causes skin irritation

Causes serious eye irritation

Harmful if swallowed

Page 1 of 10

May cause an allergic skin irritation

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

Precautionary statements:

Keep container tightly closed

If medical advice is needed, have product container or label at hand

Keep out reach of children

Read label before use

Avoid breathing dust/gas/mist/vapors/spray

Wash skin thoroughly after handling

Contaminated work clothing should not be allowed out of the workplace

Avoid release to the environment

Wear protective gloves/protective clothing/eye protective/face protection

IF ON SKIN: Wash with soap and water

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

IF INHALED: Remove victim to fresh air and keep at rest in a comfortable for breathing

If skin irritation or a rash occurs. Get medical advice/attention

Take off contaminated clothing and wash before reuse

Collect spillage

Store locked up

Store in a well ventilated place. Keep container tightly closed

Dispose of contents and container as instructed in Section 13

Other Non-GHS Classification: Health-3,Flammability-1,Physical-0,Personal Protection X

SECTION 3: Composition/information on ingredients

Ingredients

CAS 1408-60-7	Silicon dioxide	60-70%
CAS 68953-36-6	Polyamido Amine	25-30%
CAS 12174-11-7	Attapulgate clay	5-7+%

Percentages are by weight

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

SECTION 4: First aid measures

Description of first aid measures

Page 2 of 10

After inhalation:

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position.

After skin contact:

Wash hands and exposed skin with soap and plenty of water. Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists. Wash away any material which may have contacted the body with copious amounts of water or soap.

After eye contact:

Seek medical attention. Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes

Remove contact lenses while rinsing

After swallowing:

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention

Most important symptoms and effects, both acute and delayed:

Shortness of breath, Headache, Nausea, Dizziness, Irritation-all routes of exposure. Acute pneumoconiosis or silicosis from overwhelming exposure to crystalline silica dust has occurred. Lungs may be affected by repeated or prolonged exposure to fibers, resulting in fibrosis. This substance is possible carcinogenic to humans. Persons with impaired respiratory function may be more susceptible to the effects of this substance. Smoking can increase the risk of lung injury.

Indication of any immediate medical attention and special treatment needed

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. If large quantities of combustibles are involved, use water in flooding quantities as spray and fog. Use water spray to Knock-down vapors. Page 3 of 10

Unsuitable extinguishing agents: None

Advice for firefighter:

Protective equipment: Wear protective eyewear, gloves, and clothing. Refer to section Additional information (precautions)

Avoid inhaling gases, fumes, dust, mist, and aerosols. Avoid contact with skin, eyes and clothing. Additional information (precautions)

If material not on fire and not involved in fire: keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes and clothing. Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Avoid generating dust, fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Water⁴ spill: Neutralize with agricultural lime (CaO), crushed limestone (CaCO₃) or sodium bicarbonate (NaHCO₃). If dissolved, in region of 10 ppm or greater concentration, apply activated carbon at ten times the spilled amount. Land spill: Dig a pit, pond, lagoon, holding area (should be sealed with an impermeable flexible membrane liner) to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder. Neutralize as noted for water spill. Ensure adequate ventilation. Ensure that air-handling systems are operational

Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway. Collect contaminated soil for characterization per section 13.

Methods and material for containment and cleaning up:

Sweep up and shovel. Soak up with inert absorbent material and dispose of as hazardous waste. Wear protective eyewear, gloves, and clothing. Personal protection: P2 filter respirator for harmful particles. Dust deposits should not be allow to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration Avoid dispersal of dust in the air (i.e. clearing dust surface with compressed air). Collect solids in powder form using vacuum with (HEPA filter) Do not handle broken

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

packages unless wearing appropriate chemical protective equipment. Wash away any material which may have contacted the body with copious amounts of water and soap. Refer to section 8. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to section 13. Keep in suitable closed containers for disposal. Page 4 of 10

Sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Reference to other sections: none

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling;

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Do Not take working clothes home. Refer to Section 8. Follow proper disposal methods. Combustible dusts formation is a risk. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substance.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed, Store away from incompatible materials. Avoid storage near extreme heat, ignition sources or open flame.

SECTION 8: Exposure controls/personal protection

Control Parameters:

68953-36-6 AIHA WEEL (2004-01.01) TWA 5 mg/m³

Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls To keep the airborne concentrations of vapor and mist below the applicable workplace exposure limits indicated above. (Occupational Exposure-OELS). It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosive relief vents or an explosive suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment) Use under a fume hood.

Respiratory protection:

Where risk Assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

Protection of skin:

Select glove material impermeable and resistant to the

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer service. Avoid skin contact with used gloves. Wear protective clothing.

Eye protection:

Faceshield (8-inch minimum) with tightly fitting safety goggles are appropriate eyewear. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)

General hygienic measures:

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before rewearing wash contaminated clothing.

SECTION 9: Physical and chemical properties

Appearance (physical State, color)	black, gritty paste	Explosion limit lower	N/A
		Explosion limit upper	N/A
Odor:	Slight ammonia	Vapor pressure at 20⁰	Not determined
Odor threshold:	Not Determined	Vapor density	Not determined
PH-value:	Not Determined	Relative density	1.77
Melting/Freezing Point:	Not Determined	Solubilities	N/A
Boiling point/Range:	Not Determined	Partition coefficient (n-octanol/water)	Not determined
Flash point(closed cup):	Not Determined	Auto/self-ignition Temperature	Not determined
Evaporation rate:	Not Determined	Decomposition Temp	Not determined
Flammability (solid Gaseous)	Not Determined	Viscosity	a. Kinematic Paste b. Dynamic: Paste
Density at 20⁰	Not Determined		1.77

SECTION 10: Stability and reactivity

Reactivity:

Nonreactive under normal conditions

Chemical stability:

Stable under normal conditions. Chemically inert, properties are inert; affected by change in PH

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

Possible hazardous reactions:

None under normal conditions

Conditions to avoid:

Incompatible materials

Incompatible materials:

Strong Acids, Strong Bases, Oxidizing agents, Hydrogen fluoride.

Hazardous decomposition products:

Carbon oxides, Nitrogen oxides, Ammonia. When heated to decomposition it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute Toxicity:

Oral:

Inhalation:

The substance can be absorbed into the body by inhalation.

Chronic Toxicity:

Inhalation:

May cause respiratory irritation

Corrosion irritation

Dermal: Section 2, Classified as skin irritant

Ocular: Section 2, Classified as eye irritant

Sensitization: Classified as a skin sensitizer

Single Target organ (STOT): Classified as respiratory irritant

Numerical measure: No Additional information

Mutagenicity: No additional information

Reproductive Toxicity: Classified as possible causing reproductive harm to fertility or unborn child

SECTION 12: Ecological information

Ecotoxicity:

Fish (acute 84852-15-3): 96 hr LC50 Pimephales promelas: 0.135 MG/L {flow-through}; 96 hr LC50 lepomis macrochirus: 0.1351 mg/l {flow-through}

Crustacea (acute 84852-15-3): 48 hr EC50 Daphnia magna: 0.14 mg/l

Algae (acute 84852-15-3): 96 hr EC50 Pseudokirchneriella subcapitata: 0.36-0.48 mg/l {static}; 72 hr EC50 Pseudokirchneriella subcapitata: 0.16-0.72 mg/l {static}; 72 hr EC50 Desmodesmus subspicatus: 1.3 mg/l

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

SECTION 15: regulatory information

United States (USA)

SARA SECTION 311/312 (Specific toxic chemical listings):

None of the ingredients is listed

SARA SECTION 313 (Specific toxic chemical listings):

84852-15-3.1.0% de minimis concentration (listed under Chemical Category Nonylphenol)

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic substance control act)

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

None of the ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproduction toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproduction toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substance list (DSL)

None of the ingredients are listed.

Canadian NPRI ingredient disclosure list (limit 0.1%)

None of the ingredients is listed

Canadian NPRI ingredient disclosure list (limit 1%)

148-8-60-7 Quartz

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take these precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information handling and use are beyond our control, we make no guarantee of results, and assume no liability for

Safety Data Sheet

According to 29CFR1910/1200 and GHS Rev.3

Effective date: 09.15.2015

MM High Strength Epoxy Part B

damages incurred by the use of the material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material. The information contained herein is, to the best of our knowledge and belief, accurate.

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of classification and labelling of chemicals

ACGIH; American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification Systems (USA)

ACGIH: American Conference of Governmental Industrial Hygienists

WHMIS: Workplace Hazardous Materials Information System (CANADA)

DNEL: Derived No-Effect level (Reach)

PNEC: Predicted No-Effect Concentration (Reach)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substance Control Act (USA)

NPRI: National Pollutant Release Inventory (CANADA)

DOT: US Department of Transportation

CAS: Chemical Abstracts Service (Division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (CANADA)

DNEL: Derived No-Effect Level (Reach)

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **MM HIGH MODULUS LIQUID RUBBER**
 REVISION DATE: 10/25/2016

MANUFACTURER/: MM SYSTEMS CORPORATION
 SUPPLIER: 50 MM WAY
 PENDERGRASS, GA 30567
 PHONE: 706-824-7500 / FAX: 706-824-7501

EMERGENCY PHONE: CHEMTREC: 800-424-9300 (USA) / 703-527-3887 (INTERNATIONAL)

SECTION 2 – HAZARDS IDENTIFICATION

Classification of the substance or mixture

Flammable liquid	2	Flash point <23° C and initial boiling point > 35° C (95° F)
Inhalation toxicity	Acute tox. 4	Gases>2500+<=20000ppm, Vapors>10+<=20mg/l, Dusts&mists>1+<=5mg/l
Skin corrosive	2	Reversible adverse effects in dermal issue, Draize score: >=2.3<4.0 or persistent inflammation
Eye corrosive	2A	Eye irritant: Subcategory 2A, Reversible in 21 days
Skin sensitizer	1	Skin sensitizer
Mutagen	1B	Known to produce heritable mutations in human germ cells Subcategory 1B, Positive results: In vivo heritable germ cell tests in mammals, Human germ cell tests, In vivo somatic mutagenicity tests, combined with some evidence of germ cell mutagenicity
Carcinogen	1B	Presumed Human Carcinogen, Based on demonstrated animal carcinogenicity
Organ toxin single exposure	3	Transient target organ effect – Narcotic effects – Respiratory tract irritation
Organ toxin repeated exposure	2	Presumed to be harmful to human health – Animal studies with significant toxic effects relevant to human at generally moderate exposure (guidance) – Human evidence in exceptional cases
Aspiration hazard	1	Aspiration Toxicity Category 1: Known (regarded) – human evidence – hydrocarbons with kinematic viscosity ? 2.5 mm ² /s at 40°C.

GHS HAZARDS		GHS PRECAUTIONS	
H225	Highly flammable liquid and vapor		
H304	May be fatal if swallowed and enters airways		
H315	Causes skin irritation		
H317	May cause an allergic skin reaction	P201	Obtain special instructions before use
H319	Causes serious eye irritation	P202	Do not handle until all safety precautions have been read and understood
H336	May cause drowsiness or dizziness	P210	Keep away from heat, sparks, open flames and hot surfaces – No smoking
H351	Suspected of causing cancer	P233	Keep container tightly closed
H361	Suspected of damaging fertility or the unborn child	P240	Ground and bond container and receiving equipment
H372	Causes damage to organs through prolonged or repeated exposure	P241	Use explosive-proof electrical, ventilating, lighting and motorized equipment
		P242	Use only non-sparking tools
		P243	Take precautionary measures against static discharge
		P260	Do not breath dust, mist, vapors or spray
		P264	Wash contacted skin thoroughly after handling
		P270	Do not eat, drink or smoke when using this product
		P271	Use only outdoors or in a well-ventilated area
		P272	Contaminated work clothing should not be allowed out of the workplace

		P280	Wear protective gloves, protective clothing, eye protection, face protection and respiratory protection.
		P301+P310	If SWALLOWED: Immediately call a POISON CENTER, a doctor
		P302+P352	If on skin: Wash with plenty of soap and water
		P303+P361+P353	IF ON SKIN (or hair): Immediately take off all contaminated clothing. Wash skin with soap and water
		P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
		P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
		P308+P313	IF exposed or concerned: Get medical advice
		P312	Call a POISON CENTER, a doctor if you feel unwell
		P314	Get medical advice/attention if you feel unwell
		P321	Specific treatment (see first aid instruction on this label)
		P331	Do NOT induce vomiting
		P333+P313	If skin irritation or a rash occurs: Get medical advice
		P337+P313	If eye irritation persists: Get medical advice
		P362+P364	Take off contaminated clothing and wash it before reuse.
		P370+P378	In case of fire: Use dry chemical, CO2, foam or water fog to extinguish
		P405	Store locked up
		P403+P233+P235	Store in a well ventilated place. Keep container tightly closed. Keep cool
		P501	Dispose of contents and container in accordance with local, regional, national and international regulations.

Danger



Hazards not otherwise classified (HNOC) or not covered by GHS: None known

Unknown acute toxicity (GHS US): No data available

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance: Not applicable
Mixture

Name	Product Identifier	%
Distillates, petroleum, light distillate hydrotreating process, low-boiling	(CAS No) 68410-97-9	15-40*
Naphtha, petroleum, hydrotreated light	(CAS No) 64742-49-0	15-40*
Solvent naphtha, petroleum, light aliphatic	(CAS No) 64742-89-8	15-40*
Xylenes (o-, m-, p- isomers)	(CAS No) 1330-20-7	10-30*
Hexane	(CAS No) 110-54-3	10-30*
Acetone	(CAS No) 67-64-1	5-10*
Elthylbenzene	(CAS No) 100-41-4	1-5*
Octane	(CAS No) 111-65-9	1-5*
n-Heptane	(CAS No) 142-82-5	1-5*

Bis (1,2,2,6,6-pentamethyl040piperidyl) sebacate	(CAS No) 41556-26-7	0.1-1*
Titanium dioxide	(CAS No) 13463-67-7	0.5-1.5*
Toulene	(CAS No) 108-88-3	0.1-1*
Stoddard solvent	(CAS No) 8052-41-3	0.1-1*
Decanedioic acid, methyl 1,2,2,6,6-pentamethyl04-piperidinyl ester Cumene	(CAS No) 82919-37-7	0.1-1*
Cumene	(CAS No) 98-82-8	0.1-1*
Carbon Black	(CAS No)1333-86-4	≤0.1*
Methyl Ethyl Ketoxime	(CAS No) 96-29-7	≤0.1*

*In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200), the specific chemical identify or exact weight % has been withheld as a trade secret

SECTION 4 FIRST AID MEASURES

4.1. Description of first-aid measures

First-aid measures general	If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
First-aid measures after inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.
First-aid measures after skin contact	IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
First-aid measures after eye contact	IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. IF pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
First-aid measures after ingestion	IF SWALLOWED: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.
Symptoms/injuries after inhalation	May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	Causes serious eye irritation.
Symptoms/injuries after ingestion	May be fatal if swallowed and enters airways.
Chronic symptoms	Suspected of causing cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Foam. Dry chemical
5.2 Special hazards arising from the substance or mixture	
Fire hazard	Highly flammable liquid and vapour
Explosive hazard	Heating may cause an explosion
Reactivity	No dangerous reactions known under normal conditions of use
5.3 Advice for firefighters	
Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion. Avoid contact with sprayed water – material slippery when wet.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
Other information	This material is flammable and may be ignited by heat, sparks, or static electricity.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
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General measures	Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).
6.1.1 For non-emergency personnel	
Protective equipment	Wear protective equipment as described in Section 8.
Emergency procedures	Evacuate unnecessary personnel.
6.1.2 For emergency responders	
Protective equipment	Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.
6.2 Environmental precautions	
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid released to the environment.	
6.3 Methods and material for containment and cleaning up.	
For containment	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	Eliminate ignition sources. Ventilate area. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).
6.4 Reference to other sections	
No additional information available	

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling	
Precautions for safe handling	Handle in accordance with good industrial hygiene and safety procedures. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignitions sources. No smoking. Do not breathe mist, vapours. Provide good ventilation in process area to prevent formation of vapour. Wash hand and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
7.2 Conditions for safe storage, including an incompatibilities	
Storage conditions	Store in dry, well-ventilated area. Keep container closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters	
Distillates, petroleum, light distillate hydrotreating process, low-boiling (68410-97-9)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Naphtha, petroleum, hydrotreated light (64742-49-0)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Solvent naphtha, petroleum, light aliphatic (64742-89-8)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Octane (111-65-9)	
ACGIH TWA (ppm)	300
OSHA PEL (TWA) (mg/m3)	2350
OSHA PEL (TWA) (ppm)	500
OSHA PEL (STEL) (mg/m3)	1800 Vacated
OSHA PEL (STEL) (ppm)	375 Vacated
n-Heptane (142-82-5)	
ACGIH TWA (ppm)	400
ACGHI STEL (ppm)	500 (listed under Heptane, all isomers)
OSHA PEL (TWA) (mg/m3)	200
OSHA PEL (TWA) (ppm)	500
OSHA PEL (STEL) (mg/m3)	2000
OSHA PEL (STEL) (ppm)	500
Toluene (108-88-3)	
ACGIH TWA (ppm)	20
Remark (ACGIH)	Visual impair, female repro
Ethylbenzene (100-41-4)	
ACGIH TWA (ppm)	20

Remark (ACGIH)	Upper respiratory tract irritation; kidney damage (nephropathy); cochlear impairment
OSHA PEL (TWA) (mg/m3)	435
OSHA PEL (TWA) (ppm)	100
OSHA PEL (STEL) (mg/m3)	545
OSHA PEL (STEL) (ppm)	125
Xylenes (o-, m- p- isomers) (1330-20-7)	
ACGIH TWA (ppm)	100
ACGIH STEL (ppm)	150
OSHA PEL (TWA) (mg/m3)	435
OSHA PEL (TWA) (ppm)	100
OSHA PEL (STEL) (mg/m3)	655
OSHA PEL (STEL) (ppm)	150
Cumene (98-82-8)	
ACGIH TWA (ppm)	50
OSHA PEL (TWA) (mg/m3)	45
OSHA PEL (TWA) (ppm)	50
Hexane (110-54-3)	
ACGIH TWA (ppm)	50
OSHA PEL (TWA) (mg/m3)	1800
OSHA PEL (TWA) (ppm)	500
Acetone (67-64-1)	
ACGIH TWA (ppm)	500
ACGIH STEL (ppm)	750
OSHA PEL (TWA) (mg/m3)	2400
OSHA PEL (TWA) (ppm)	1000
OSHA PEL (STEL) (mg/m3)	2400 (The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors)
OSHA PEL (STEL) (ppm)	1000
Titanium dioxide (13463-67-7)	
ACGIH TWA (mg/m3)	10
OSHA PEL (TWA) (mg/m3)	15 total dust
Stoddard solvent (8052-41-3)	
ACGIH TWA (ppm)	100
Remark (ACGIH)	CNS impairment; Eye, skin, and kidney damage; nausea
OSHA PEL (TWA) (mg/m3)	2900
OSHA PEL (TWA) (ppm)	500
Methyl ethyl ketoxime (96-29-7)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Bis (1,2,2,6,6-pentamethyl-piperidyl) sebacate (41556-26-7)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Decanedioic acid, methyl 1,2,2,6,6-pentamethyl-4-piperidinyl ester (82919-37-7)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Carbon black (1333-86-4)	
ACGIH TWA (mg/m3)	3
Remark (ACGIH)	Bronchitis
OSHA PEL (TWA) (mg/m3)	3.5

8.2 Exposure controls	
Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable material. Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	Gloves. Protective goggles. Protective clothing.
	

Hand protection	Use gloves chemical resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 2 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.
Eye protection	Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.
Skin and body protection	Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.
Respiratory protection	Use NIOSH-approved dust/particulate respirator. Where vapor, mist or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties	
Physical state	Liquid
Appearance	Honey like substance
Color	Gray
Odor	Characteristic
Odor Threshold	No data available
Ph	No data available
Relative evaporation rate (butylacetate=1)	>1
Melting point	No data available
Freezing point	No data available
Boiling point	56 – 141° C (133-286° F)
Flash point	-23° C (-10° F) (TCC)
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	186 mm Hg @ 20° C (68° F)
Relative vapour density at 20° C	Heavier than air (Air = 1)
Relative density	0.82 – 0.84 (h20 = 1)
Solubility	Water: soluble
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	0.9 – 12.8 vol %
9.2 Other information	
VOC content	65.4%

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	
No dangerous reactions known under normal conditions of use	
10.2 Chemical stability	
Stable under recommended handling and storage conditions (see section 7).	
10.3 Possibility of hazardous reactions	
None known	
10.4 Conditions to avoid	
None known	
10.5 Incompatible materials	
Strong acids. Oxidizing agent. Selected amines with alkali metals and halogens.	
10.6 Hazardous decomposition products	
Carbon oxides (CO, Co2)	

SECTION 11; STABILITY AND REACTIVITY

11.1 Information on toxicological effects	
Acute toxicity	Not classified
Naphtha, petroleum, hydrotreated light (64742-49-0)	
LD50 oral rat	>5000mg/kg
LD50 dermal rabbit	>3160 mg/kg

LC50 inhalation rate (ppm)	73680 ppm/4h
Solvent naphtha, petroleum, light aliphatic (64742-89-8)	
LD50 oral rat	5000 mg/kg mouse
LD50 dermal rabbit	3000 mg/kg
Octane (111-65-9)	
LC50 inhalation rat (mg/l)	118 g/m3 4h
n-Heptane (142-82-5)	
LD50 oral rat	5000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	103 g/m3 4h
Toulene (108-88-3)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 inhalation rat (mg/l)	12.5 mg/l/4h
Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD 50 dermal rabbit	15400 mg/kg
LC50 inhalation rat (mg/l)	17.2 mg/l/4h
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 oral rat	3500 mg/kg
Cumene (98-82-8)	
LD50	12300 pl/kg
LC50 inhalation rat (ppm)	>3577 ppm 6 h
Hexane (110-54-3)	
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (ppm)	48000 ppm/4h
Acetone (67-64-1)	
LC50 inhalation rat (mg/l)	50100 mg/m3
Titanium dioxide (13463-67-7)	
LD50 oral rat	>10000 mg/kg
Methyl ethyl ketoxime (96-29-7)	
Lc50 inhalation rat (mg/l)	20 mg/l/4h
Bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate (41556-26-7)	
LD50 oral rat	2615 mg/kg
Carbon black (1333-86-4)	
LD50 oral rat	>15400 mg/kg
LD50 dermal rabbit	>3 g/kg
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/irritation	Cause serious eye irritation
Respiratory or skin sensitization	May cause an allergic skin reaction
Germ cell mutagenicity	Not classified
Carcinogenicity	Suspected of causing cancer
Benzene (71-43-2)	
IARC group	
National Toxicology Program (NTP Status)	
Ethylbenzene (100-41-4)	
IARC group	
Naphthalene (91-20-3)	
IARC group	
National Toxicology Program (NTP Status)	
Cumene (98-82-8)	
IARC group	
Silica: Crystalline, quartz (14808-60-7)	
IARC group	
Titanium dioxide (13463-67-7)	
IARC group	
Carbon black (1333-86-4)	
IARC group	
Reproductive toxicity	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	May be fatal if swallowed and enters airways
Symptoms/injuries after inhalation	May cause drowsiness or dizziness

Symptoms/injuries after skin contact	Causes skin irritation. May cause an allergic skin reaction
Symptoms/injuries after eye contact	Causes serious eye irritation
Symptoms/injuries after ingestion	May be fatal if swallowed and enters airways
Chronic symptoms	Suspected of causing cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure.


SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity	
Ecology – general	No information available
Hexane (110-54-3)	
LC50 fish 1	2.1 – 2.98 mg/l 96 Hr LC50 Pimephales promelas [flow through]
12.2 Persistence and degradability	
MM High Modulus Liquid Rubber	
Persistence and degradability	No information available
12.3 Bioaccumulative potential	
MM High Modulus Liquid Rubber	
Bioaccumulative potential	No information available
12.4 Mobility in soil	
MM High Modulus Liquid Rubber	
Ecology – soil	No information available
12.5 Other adverse effects	
No additional information available	

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	
Waste treatment methods	Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit
Waste disposal recommendations	Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: TRANSPORT INFORMATION

In accordance with DOG	
Transport document description	YB1139 Coating solution (contains Acetone, Hexane, Petroleum Distillates), 3, II
UN-No. (DOT)	1139
DOT NA no.	UN1139
Proper Shipping Name (DOT)	Coating solutions Contains: Acetone, Hexane, Petroleum Distillates
Transport hazard class(es) (DOT)	3 – Class 3 – Flammable and combustible liquid 4 CFR 173.120
Hazard labels (DOT)	3 – Flammable liquid
	
Packing group (DOT)	II – Medium Danger
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	60 L
DOT Vessel Stowage Location	B – (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the large of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Additional Information	
Other information	No supplementary information available
Transport by sea	
No additional information available	
Air transport	
No additional information available	

SECTION 15: REGULATORY INFORMATION

15.1 US Federal regulations				
MM High Modulus Liquid Rubber				
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt				
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard			
Acetone (67-64-1)				
CERCLA RQ	5000 lb			
Section 313	Not Listed on US SARA Section 313			
Xylenes (o-, m-, p- isomers) (1330-20-7)				
CERCLA RQ	100 lb			
Section 313	Not Listed on US SARA Section 313			
Ethylbenzene (100-41-4)				
CERCLA RQ	1000 lb			
Section 313	Not Listed on US SARA Section 313			
Hexane (110-54-3)				
CERCLA RQ	5000 lb			
Section 313	Not Listed on US SARA Section 313			
15.2 International regulations				
No additional information available				
15.3 US State regulations				
Warning! This product contains chemical known to the state of California to cause cancer, birth defects, or other reproductive harm.				
Ethylbenzene (100-41-4)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	54 (inhalation) 41 (oral) pg/day
Carbon black (1333-86-4)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available
Benzene (71-43-2)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	No significance risk level (NSRL) Maximum allowable dose level (MADL)
Yes	Yes	No	Yes	13 (inhalation) 6.4 (oral) pg/day 49 (inhalation) 24 (oral) pg/day
Methyl alcohol (67-56-1)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Maximum allowable dose level (MADL)
No	Yes	No	No	47,000 (inhalation) 23,000 (oral) pg/day
Silica: Crystalline, quartz (14808-60-7)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available
Titanium dioxide (13463-67-7)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available
Toluene (108-88-3)				

U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Maximum allowable dose level (MADL)
No	Yes	No	No	70100 pg/day
Naphthalene (91-20-3)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	5.8 pg/day
Cumene (98-82-8)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California - Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 6 – Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available

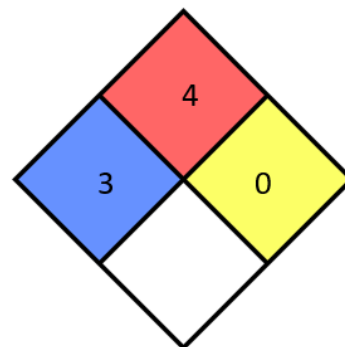
Octane (111-65-9)				
U.S. – New Jersey – Right To Know Hazardous Substance List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right To Know) List				
n-Heptane (142-85-5)				
U.S. – New Jersey – Right To Know Hazardous Substance List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right To Know) List				
Toulene (108-88-3)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey – Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right To Know) – Environmental Hazard List U.S. – Pennsylvania – RTK (Right To Know) List				
Benzene (71-43-2)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey – Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right To Know) – Special Hazardous Substances U.S. – Pennsylvania – RTK (Right To Know) Environmental Hazard List				
Ethylbenzene (100-42-4)				
U.S. – New Jersey – Right To Know Hazardous Substance List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right To Know) List				
Naphthalene (91-20-3)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List				
Xylenes (o-, m-, p- isomers) (1330-20-7)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List				
Cumene (98-82-8)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List				
Hexane (110-54-3)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) List				
Acetone (67-64-1)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) List				
Methyl alcohol (67-56-1)				
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List				
Limestone (1317-65-3)				
U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right to Know) List				
Silica: Crystalline, quartz (14808-60-7)				

U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right to Know) List
Titanium dioxide (13463-67-7)
U.S. – Massachusetts – Right To Know List U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) List
Stoddard solvent (8052-41-3)
U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right to Know) List
Carbon black (1333-86-4)
U.S. – New Jersey - Right To Know Hazardous Substance List U.S. – Pennsylvania – RTK (Right to Know) List U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right to Know) – Special Hazardous Substances
Barium sulfate (7727-43-7)
U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right to Know) List U.S. – New Jersey - Right To Know Hazardous Substance List
Due to pigments may contain up to 2 Proprietary Non-Hazardous Ingredients (Proprietary CAS)
U.S. – State Right to Know List

SECTION 16: OTHER INFORMATION

Version 1.0 (03 Nov 2015)	Created GHS complaint SDS
Version 2.0 (19 Aug 2016)	Updated classification/composition

NFPA health hazard	3 – Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
NFPA fire hazard	4 – Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
NFPA reactivity	0 – Normally stable, even under fire exposure conditions, and are not reactive with water.
HMIS III Ratings	
Health	3*
Flammability	4
Physical	0
Personal Protection	



This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



SAFETY DATA SHEET

Print date: 05/26/2015

Revision Date: 05/26/2015

Revision Number: 1

1. COMPANY AND PRODUCT IDENTIFICATION

Product identifier

Product Name: FLEXIBLE SEAL CLEAR
Product code: FSC-60

Other means of identification

Synonyms No information available.

Application

Recommended Use Adhesives and/or Sealants
Uses advised against For industrial use only

Supplier/Manufacturer:

Supplier:
EPMAR Corporation
13240 E. Barton Circle
Whittier, CA 90605-3254
Phone: 562-946-8781
FAX: 562-944-9958
E-mail: she@quakerchem.com
(For Health and Safety Questions)

Emergency telephone number:

* 24 HOUR TRANSPORTATION:
**CHEMTREC: 1-800-424-9300
+703-527-3887 (Call collect outside of US)
* 24 HOUR EMERGENCY HEALTH & SAFETY:
**(800) 523-7010 (Within US only) Outside of US call (703)
527-3887

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Skin Sensitization	Category 1


Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 3

Label Elements

Emergency Overview

DANGER

Hazard Statements
 Causes skin irritation
 May cause an allergic skin reaction
 Suspected of damaging fertility or the unborn child
 May cause drowsiness or dizziness
 May cause damage to organs through prolonged or repeated exposure
 Harmful to aquatic life with long lasting effects
 May be fatal if swallowed and enters airways



Appearance Colorless **Physical State** Semi-Solid **Odor** Solvent

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Contaminated work clothing should not be allowed out of the workplace
 wear protective gloves
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Avoid release to the environment

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific treatment (see first aid on this label)
 IF ON SKIN: Wash with plenty of soap and water Take off contaminated clothing and wash before reuse If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None known

Other Information

None known.

Unknown acute toxicity 0.408005% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Weight %
Toluene	108-88-3	40 - 50%
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	2440-22-4	<1%

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance. Remove contaminated clothing and shoes. Wash contaminated clothing before re-use. Wash off with soap and water. If symptoms persist, call a physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin contact: Remove contaminated clothing and shoes. Wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

Note to physician: This product contains toluene. In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.

Medical condition aggravated by exposure: Dermatitis and asthma.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide (CO2) Dry chemical Foam

Specific hazards: Do not allow material to contaminate ground water system.

Special protective equipment for fire-fighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific methods: Cool containers / tanks with spray water.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapour/dust. Use personal protective equipment. Wash thoroughly after handling Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area) Use spark-proof tools and explosion-proof equipment
- Environmental precautions:** Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up:** Use non-sparking equipment Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

Handling

Technical measures/precautions: Provide sufficient air exchange and/or exhaust in work rooms.

Safe handling advice: Keep away from open flames, hot surfaces and sources of ignition. In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe vapors or spray mist. Wear personal protective equipment. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage

Technical measures/storage conditions: Store at room temperature in the original container

Incompatible products: Strong oxidizing agents

Safe storage temperature: 40 - 100 ° F

Shelf life: 6 months

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	ACGIH Exposure Limits	OSHA TWA (final)	NIOSH - Pocket Guide
Toluene	20 ppm (TWA)	200 ppm	100 ppm (TWA) 375 mg/m ³ (TWA) 150 ppm (STEL) 560 mg/m ³ (STEL)
Silicon dioxide	None	None	6 mg/m ³ (TWA)

Engineering measures: Ensure adequate ventilation.

Personal Protective Equipment:

General: Eye Wash and Safety Shower

Respiratory protection: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, a NIOSH-certified respirator with organic vapor/P100 filter should be worn.

Eye protection: Safety glasses with side-shields

Hand protection: Neoprene gloves

Skin and body protection: Long sleeved clothing

Hygiene measures: Avoid contact with skin, eyes and clothing.



9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Semi-Solid
Appearance	Colorless
Odor	Solvent
Odor Threshold	No information available.
pH concentrate:	No information available
pH Dilution	No information available
Melting/freezing point	No information available
Boiling Point/Range	110 °C / 230 °F
Flash Point	4.44 °C / 40 °F
Method	PMCC (Pensky-Martens Closed-Cup)
Evaporation rate	No information available
Flammability Limits in Air	
upper flammability limit	No information available.
lower flammability limit	No information available.
VOC Content	No information available
VOC Content Product (lb/gal)	3.28
VOC Content Product (g/L)	392.95
VOC less water and exempt (lb/gal)	3.28
VOC less water and exempt (g/L)	392.95
HAP Content Product (g/L):	392.95

HAP Content Product (lb/gal)	3.27
Solids (% w/w):	59.57
Solids (% v/v):	54.82
Vapor pressure	No information available.
Vapor density	No information available.
Specific Gravity (g/cc, 15 C)	No information available
Density @ 25 ° C. (g/cc):	0.971
Bulk Density @ 77° F. (lb/gal):	8.1
Water Solubility	Insoluble
Solubility in other solvents	No information available.
Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition Temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Molecular Weight	No information available

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	Heat, flames and sparks.
Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition products:	Carbon oxides. Thermal decomposition can lead to release of irritating gases and vapours.
Hazardous Polymerization:	Not applicable.

11. TOXICOLOGICAL INFORMATION

No toxicological information is available on the product. Data obtained on components are summarized below.

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract.
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	Irritating to skin. May cause sensitization by skin contact.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Components	LD50 Oral	LD50 Dermal	LC50 Inhalation
Toluene	636 mg/kg (Rat)	12124 mg/kg (Rat) 8390 mg/kg (Rabbit)	26700 ppm (Rat) 1 h
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	-	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen

Components	IARC Carcinogens	NTP	OSHA - Select Carcinogens
Toluene	Not listed	Not listed	Not listed
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	Not listed	Not listed	Not listed

Sensitization

Product contains a component that is classified as a skin sensitizer. No studies have been conducted on the product itself.

Mutagenic effects:

No information available.

Reproductive Toxicity

Product contains a componet that is classified as a reproductive hazard. No testing has been conducted on the product itself.

Developmental Toxicity

No information available.

Teratogenic

No information available.

Specific target organ systemic toxicity (single exposure)

Central nervous system (CNS).

Specific target organ systemic toxicity (repeated exposure)

May cause disorder and damage to the, Central nervous system (CNS), Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

May be fatal if swallowed and enters airways. Risk of serious damage to the lungs (by aspiration).

Additional information on toxicological effects

No information available

Over exposure to toluene has been associated with permanent brain damage characterized by disturbances in gait, personality changes and loss of memeoery. Toluene has been found to cause cardiac sensitivity, effects on hearing, central nervous system damage, respiratory tract damage and mild reversible liver effects in laboratory animals. Toluene may be harmful to the human fetus based on positive test results with laboratory animals.

12. ECOLOGICAL INFORMATION

Components	Ecotoxicity - Fish Species Data:	Ecotoxicity - Freshwater Algae Data:	Ecotoxicity - Water Flea Data:

Toluene	11 14.1 15.22 5.89 50.87 12.6 28.2 5.8 54	5.46 - 9.83mg/L =11.5mg/L 12.5 433.433	EC50 (Daphnia magna - 48h) = 5.46 - 9.83 mg/L EC50 (Daphnia magna - 48h) = 11.5 mg/L
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	No data	No data	No data

58.542% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and Degradability No information available.

Bioaccumulation No information available.

Components	Octanol/water partition coefficient
Toluene	-
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	-

Mobility: No data available

Ozone: No data available

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Contaminated packaging: Do not re-use empty containers

Methods for cleaning up: Use non-sparking equipment Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Components Toluene
108-88-3

US EPA Waste Number	D001
RCRA - Hazardous Constituents - Appendix:	U220

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION:

Proper shipping name: Not Regulated

TDG (CANADA):

Proper shipping name: Not Regulated

IMDG/IMO:

Proper shipping name: Not Regulated

IATA/ICAO:

Proper shipping name:

Not Regulated

15. REGULATORY INFORMATION**Federal Regulations**

OSHA Hazard Communication Standard: This product is considered to be hazardous under the OSHA Hazard Communication Standard.

CERCLA/SARA Information:

SARA (311, 312) hazard class: This product possesses the following SARA Hazard Categories:

Immediate Health (Acute): Yes
Delayed Health (Chronic): Yes
Flammability: Yes
Pressure: No
Reactivity: No

Components	Hazardous Substances and RQs	Extremely Hazardous Substances and TPQs	SARA 313 Emission Reporting
Toluene	1000 lb	Not listed	1.0 %
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	Not listed	Not listed	Not listed

Clean Air and Clean Water Acts:

Components	Hazardous Air Pollutants	CWA - Hazardous Substances	CWA - Toxic Pollutants	CWA - Priority Pollutants
Toluene	Listed	Listed	Listed	Listed
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	Not listed	Not listed	Not listed	Not listed

U.S. STATE REGULATIONS (RTK):

Components	California Proposition 65	PARTK	MI Critical Materials	NJRTK	MARTK
Toluene	developmental toxicity	Environmental hazard	100 lb	1866	Present
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

California Proposition 65 Status: May contain trace amounts of listed chemicals: benzene and methanol.

RCRA Status: Listed in Section 13

CANADIAN REGULATIONS:

Canada - WHMIS Classification Information: This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Canadian Product Classification: B2 = flammable (flash < 100F)
Class D2A
Class D2B

Product Classification Graphic(s):



Component Classification Data:

Components	WHMIS hazard class	CEPA Schedule I	Challenge Substances
Toluene	B2, D2A, D2B	Listed	Not listed
Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-	None	Not listed	Not listed

INVENTORY STATUS:

United States TSCA - Sect. 8(b) Inventory: This product complies with TSCA

Canada DSL/NDSL Inventory List This product complies with DSL

16. OTHER INFORMATION

Sources of key data used to compile Material safety data sheets of the ingredients.
the data sheet:

Prepared by: Safety, Health and Environmental Department

Revision Date: 05/26/2015

Reason for revision: New Format.

Personal protection recommendations should be reviewed by purchasers. Workplace conditions are important factors in specifying adequate protection.

Disclaimer

This product's safety information is provided to assist our customers in assessing compliance with safety/health/environmental regulations. The information contained herein is based on data available to us and is believed to be accurate. However, no warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of this data, the results to be obtained from the use thereof, or the hazards connected with the use of the product. Since the use of this product is within the exclusive control of the user, it is the user's obligation to determine the conditions for safe use of the product. Such conditions should comply with all regulations concerning the product. The company referenced in this Safety Data Sheet assumes no liability for any injury or damage, direct or consequential, resulting from the use of this product unless such injury or damage is attributable to the gross negligence of such company.

End of Safety Data Sheet