

# **MM<sup>®</sup> LokCrete Membrane**

**LokCrete Membrane System (LMS Series)**

**LokCrete Seismic System (LSS 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
  
- Elastobond Activator
  - Promotes adhesion of LokCrete Elastomeric Concrete to rubber seal
  
- Loctite Adhesive
  - Used in splicing rubber seals
  
- Loctite Primer
  - Used in splicing rubber seals



# 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

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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 (Fe <sub>3</sub> O <sub>4</sub> )
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:

CO<sub>2</sub>, 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
---	------------------------------------

**Manufacturer**

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50 MM Way  
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Phone: 706-824-7500  
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Web: [www.mmsystemscorp.com](http://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 CO<sub>2</sub>, 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.

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### 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:

CO<sub>2</sub>, 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.  
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.  
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/m<sup>3</sup>, C 0,02 ppm

REL (USA) Short-term value: C 0,2\* mg/m<sup>3</sup>, C 0,02\* ppm, Long-term value: 0,05 mg/m<sup>3</sup>, 0,005 ppm, \*10-min

TLV (USA) 0,051 mg/m<sup>3</sup>, 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 <sup>3</sup>	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 <sub>x</sub> ) Hydrogen cyanide (prussic acid) Poisonous gases/vapours
Hazardous Polymerization:	Polymerises at about 200 °C with evolution of CO <sub>2</sub> .





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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"	---



# SDS

# Safety Data Sheet

## LOKCRETE ELASTOMERIC CONCRETE PART B

MSDS Number:

Revision Date: 1/3/2015

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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

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## CONTACT INFORMATION

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ADDRESS: MM Systems Corporation  
50 MM Way, P.O. Box 98  
Pendergrass, GA 30567

INFORMATION TELEPHONE: Toll Free Domestic: 800-241-3460 International 1-706-824-7500

**For Chemical Emergency  
Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night**

**Within USA and Canada: 800-424-9300  
Outside USA and Canada: +1 703-527-3887 (Collect Calls Accepted)**

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## I. PRODUCT IDENTIFICATION

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PRODUCT NAME: **LOKCRETE® ELASTOMERIC CONCRETE AGGREGATE PART C**  
CHEMICAL FAMILY: Crystalline Silica  
OSHA HAZARD  
COMMUNICATION: May cause eye and skin irritation. Harmful if inhaled. May cause lung damage or possibly cancer. May cause silicosis with prolonged and repeated overexposure to dust.

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## II. HAZARDOUS INGREDIENTS

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COMPONENTS:	CAS No:	PEL (OSHA)	TLV (ACGIH)
Silica Sand, crystalline %SiO <sub>2</sub> +2	14808-60-7	10	0.05 mg/M3 (respirable)

Other Limits: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration = 0.05 mg/M3 (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40 hour work week.

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## III. PHYSICAL / CHEMICAL CHARACTERISTICS

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BOILING POINT: N/A	SPECIFIC GRAVITY: 2.76
VAPOR PRESSURE: N/A	MELTING POINT: N/A
VAPOR DENSITY: N/A	EVAPORATION RATE: N/A
SOLUBILITY IN WATER: Zero	APPEARANCE AND ODOR: Angular, White, Buff

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## IV. FIRE & EXPLOSION HAZARD DATA

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FLASH POINT: No Flash Point.

FLAMMABLE LIMITS: None LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: None Required; Sand may be used as extinguishing media for Class A & Class B fires

SPECIAL FIRE FIGHTING PROCEDURES: None Required

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

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#### V. REACTIVITY DATA

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STABLE: N/A UNSTABLE: N/A

CONDITIONS TO AVOID: None

INCOMPATIBILITY: Contact with powerful oxidizing agents such as flourine, chlorine, trifluoride, manganese trioxide, oxygen difluoride, may cause fires

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride

HAZARDOUS POLYMERIZATION – MAY OCCUR: N/A WILL NOT OCCUR: N/A

CONDITIONS TO AVOID: None

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#### VI. HEALTH HAZARD DATA

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ROUTES OF ENTRY – INHALATION Yes SKIN N/A INGESTION N/A

HEALTH HAZARDS: Health = N/A Flammability = N/A Reactivity = N/A

CARCINOGENY: NTP: Known carcinogen IARC MONOGRAPHS: N/A

OSHA REGULATED: Not listed as a carcinogen

SIGNS & SYMPTOMS OF EXPOSURE: Undue breathlessness, wheezing, cough, and sputum production

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pulmonary function may be reduced by inhalation of respirable crystalline silica.

EMERGENCY & FIRST AID PROCEDURES: For sand in eyes, wash immediately with water. If irritation persists, seek medical attention. For gross inhalation, remove person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.

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#### VII. PRECAUTIONS FOR SAFE HANDLING AND USE

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: No special steps

WASTE DISPOSAL METHOD: The packaging and material may be land filled. This product is not classified as a hazardous waster under RCRA or CERCLA

PRECAUTIONS TO BE TAKEN IN STORAGE & HANDLING: N/A

OTHER PRECAUTIONS: Blast area must be kept clear due to respirable silica danger

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#### VIII. CONTROL MEASURES

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RESPIRATORY PROTECTION: Respirator requirements are based on exposure level as shown below:

5 x PEL or less: Any dust respirator

10 x PEL or less: Any dust respirator, except single-use or quarter mask respirator. Any fume respirator or high efficiency particulate filter respirator. 50 x PEL or less: A high efficiency particulate filter respirator with a full face-piece. 500 x PEL or less: A powered air-purifying respirator with a high efficiency particulate filter. A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode. Greater than 500 x PEL or entry and escape from unknown concentrations: Self-contained breathing apparatus with a full face-piece operated pressure-demand or other positive pressure mode. A combination respirator that includes a Type C supplied-air respirator with a full face-piece operated in pressure-demand or other positive pressure continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode.

VENTILATION: REQUIRED

LOCAL EXHAUST: Exhaust into bag house

PROTECTIVE GLOVES: Standard Blasters

EYE PROTECTION: Hood with lens

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Must use OSHA approved respirator & air fed hoods

WORK / HYGIEN PRACTICES: Warn employees and/or customers of the hazards and required OSHA precautions associated with this product.

# SAFETY DATA SHEET

## SECTION 1: PRODUCT AND COMPANY INFORMATION

**PRODUCT NAME:** ELASTOBOND  
**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 <sup>2</sup> /s at 40°C.

GHS HAZARDS		GHS PRECAUTIONS	
H225	Highly flammable liquid and vapor	P101	If medical advice is needed, have product container or label on hand
H304	May be fatal if swallowed and enters airways	P102	Keep out of reach of children
H315	Causes skin irritation	P103	Read label before use
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
H332	Harmful if inhaled	P210	Keep away from heat, sparks, open flames and hot surfaces – No smoking
H336	May cause drowsiness or dizziness	P233	Keep container tightly closed
H340	May cause genetic defects	P240	Ground and bond container and receiving equipment
H350	May cause cancer	P241	Use explosive-proof electrical, ventilating, lighting and motorized equipment
H373	May cause damage to organs through prolonged or repeated exposure	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
		P271	Use only outdoors or in a well-ventilated area
		P272	Contaminated work clothing should not be allowed out of the workplace

# SAFETY DATA SHEET

<b>Section 1 – Product and Company Identification</b>
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ADDRESS: MM SYSTEMS CORPORATION  
 50 MM WAY  
 PENDERGRASS, GA 30567  
 Toll Free Domestic - 800-241-3460 International - 1-706-824-7500

PRODUCT NAME: **MM Elastobond Adhesion Promoter**  
 PRODUCT USE: Adhesion promoter

**24 HR EMERGENCY TELEPHONE NUMBER:**  
**WITHIN USA & CANADA: 800-424-9300**  
**OUTSIDE USA & CANADA: +1 703-527-3887**

<b>Section 2 – Hazards Identification</b>
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Classification of the substance or mixture

**GHS RATINGS:**

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+<=5 mg/l
Skin corrosive	2	Reversible adverse effects in dermal tissue. Draize score: >=2.3 < 4.0 or persistent inflammation
Eye corrosive	2.A	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 humans 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 ? 20.5 mm <sup>2</sup> /s at 40° C

GHS Hazards	GHS Precautions	GHS Precautions
H225	Highly flammable liquid and vapor	P101 If medical advice is needed, have product container or label on hand
H304	May be fatal if swallowed and enters airways	P102 Keep out of reach of children
H315	Causes skin irritation	P103 Read label before use
H317	May cause an allergic skin reaction	P201 Obtain specialty instructions before use
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H332	Harmful if inhaled	P210 Keep away from heat, sparks, open flames and hot surfaces – No smoking
H336	May cause drowsiness or dizziness	P233 Keep container tightly closed
H340	May cause genetic defects	P240 Ground and bond container and receiving equipment
H350	May cause cancer	P241 Use explosion-proof electrical, ventilating, lighting and motorized equipment
H373	May cause damage to organs through prolonged or repeated exposure	P242 Use only non-sparking tools
		P243 Take precautionary measures against static discharge

		P260	Do not breathe dust, mist, vapors or spray
		P264	Wash contacted skin thoroughly after handling
		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
		P312	Call a POISON CENTER or doctor if you feel unwell
		P321	Specific treatment (see first aid instructions on SDS)
		P331	Do NOT induce vomiting
		P362	Take off contaminated clothing and wash before reuse
		P301 + P310	If SWALLOWED: Immediately call a POISON CENTER or doctor/physician
		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
		P333+P313	If skin irritation or a rash occurs: Get medical advice
		P337+P313	If eye irritation persists: Get medical advice
		P370+P378	In case of fire: Use dry chemical, CO2, foam or water fog to extinguish
		P405	Store locked up
		P403+P235	Store in a well ventilated place. 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



**Section 3 – Composition**

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Light Aliphatic Solvent Naphtha (Petroleum 64742-89-8 50 percent Vapor Pressure: 5.3	PEL=300pm	PEL=300PPM	
Methyl Ethyl Ketone 78-93-3 20 percent Vapor Pressure: 12.13 25C	200 ppm TWA; 590 mg/m3 TWA	300 ppm STEL 200 ppm TWA	NIOSH: 200 ppm TWA; 590 mg/m3 TWA 300 ppm STEL; 885 mg/m3 STEL
Acetone 67-64-1 10 to 20%	1000 ppm TWA; 2400 mg/m3 TWA	750 ppm STEL 500 ppm TWA	NIOSH: 250 [[, TWA' 590 mg/m3 TWA
Methyl n-Amyl Ketone 110-43-0 5 to 10%	100 ppm TWA; 465 mg/m3 TWA	50 ppm TWA	NIOSH: 100 ppm TWA; 465 mg/m3 TWA
Butyl Alcohol 71-36-3 1 to 5%	100 ppm TWA 300 mg/m3 TWA	20 ppm TWA	NIOSH: 50 ppm Ceiling; 150 mg/m3 Ceiling
Maleic anhydride modified chlorinated polypropylene 68609-36-9 1 to 5%	None Listed	None	
Bisphenol A epoxy resin 25068-38-6 1 to 5%			

**Section 4 – First Aid Measures**

**INHALATION:** If inhaled: Remove person to fresh air and keep comfortable for breathing. . If breathing difficulty persists, seek medical attention.

**EYE CONTACT:** Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for a minimum of 15 minutes while holding eye lids open. If eye irritation persist: seek medical attention.

**SKIN CONTACT:** Take off all contaminated clothing immediately. Wash exposed area thoroughly with soap and water. Seek medical attention if irritation persists. Do NOT use solvents or thinners to wash off.

**INGESTION:** If swallowed, seek medical attention immediately and have product container and label at hand. DO NOT INDUCE VOMITING unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:**

Dizziness, breathing difficulty, headaches, & loss of coordination.

May cause skin sensitization or allergic skin reaction.

**Indication of any immediate medical attention and special treatment needed.**

Seek professional medical attention for all over-exposures and/or persistent problems.

**Section 5 – Fire Fighting Measures**

LEL: 1.0%

UEL: 112.8%

**Extinguishing Media:** Dry Chemical, Foam, CO2 or water fog.

**Unsuitable Extinguishing Media:** High volume water jets

**Unusual Fire and Explosion Hazards:** Vapors can travel to a source of ignition and flash back. Closed containers may explode when exposed to extreme heat or burst when contaminated with water (CO<sub>2</sub> gas evolved). Hazards apply to empty containers. Combustion generates toxic fumes.

**Hazardous Combustion Products:** oxides of carbon, oxides of nitrogen, formaldehyde, toxic fumes

**Special Firefighting Procedures:** Highly toxic fumes may be generated by thermal decomposition. Water runoff from firefighting can cause environmental damage. Dike and collect water used to fight fire.

**Fire Equipment:** Full fire fighter equipment including SCBA should be worn to avoid skin contact and inhalation of concentrated vapors. Minimize skin exposure.

#### Section 6 – Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid breathing vapors and mist. Ensure adequate ventilation. Eliminate all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulation to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let products enter drains.

Methods and materials for containment and cleaning up: Dike spill area and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth. Sweep up and dispose of in appropriate containers in accordance to Federal, State and/or Local regulations. Clean preferably with a detergent; avoid use of solvents.

#### Section 7 – Handling and Storage

**Safe Handling Measures:** Avoid contact with skin and eyes. May cause skin sensitization or allergic skin reaction. Avoid inhalation of vapor or mist. Ground and bond container and receiving equipment. Use non-sparking tools and explosion proof equipment when handling this material. Keep away from sources of ignition – No Smoking. Use in cool, well-ventilated areas. Keep containers closed when not in use. Take measures to prevent the build up of electrostatic charge. Follow all SDS and label precautions even after container is emptied because they may retain product residues. For precautions see section 2.

**Storage Requirements:** Keep container tightly closed. Keep away from heat, sparks, open flames and hot surfaces. No Smoking. Store in a cool, dry and well-ventilated place. Do not reuse container when empty.

#### Section 8 – Exposure Control and PPE

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Light Aliphatic Solvent Naphtha (Petroleum 64742-89-8 50 percent Vapor Pressure: 5.3	PEL=300pm	PEL=300PPM	
Methyl Ethyl Ketone 78-93-3 20 percent Vapor Pressure: 12.13 25C	200 ppm TWA; 590 mg/m <sup>3</sup> TWA	300 ppm STEL 200 ppm TWA	NIOSH: 200 ppm TWA; 590 mg/m <sup>3</sup> TWA 300 ppm STEL; 885 mg/m <sup>3</sup> STEL
Acetone 67-64-1 10 to 20%	1000 ppm TWA; 2400 mg/m <sup>3</sup> TWA	750 ppm STEL 500 ppm TWA	NIOSH: 250 [I, TWA' 590 mg/m <sup>3</sup> TWA
Methyl n-Amyl Ketone 110-43-0 5 to 10%	100 ppm TWA; 465 mg/m <sup>3</sup> TWA	50 ppm TWA	NIOSH: 100 ppm TWA; 465 mg/m <sup>3</sup> TWA
Butyl Alcohol 71-36-3 1 to 5%	100 ppm TWA 300 mg/m <sup>3</sup> TWA	20 ppm TWA	NIOSH: 50 ppm Ceiling; 150 mg/m <sup>3</sup> Ceiling

Maleic anhydride modified chlorinated polypropylene 68609-36-9 1 to 5%	None Listed	None	
Bisphenol A epoxy resin 25068-38-6 1 to 5%			

**Engineering Controls:** Ground and bond container and receiving equipment. Use explosion proof electrical, ventilation, lighting and motorized equipment. Use non-sparking tools. Ensure adequate ventilation.

**Ventilation:** General mechanical ventilation or local exhaust should be utilized to keep vapor concentrations below exposure limits (PEL & TLV). Ventilation equipment must be explosion proof.

**Safe Work Practices:** Eye washes and safety showers in the workplace are recommended. Avoid contact with skin and eyes. Avoid breathing vapors. Wash hands thoroughly after using and before eating, drinking or smoking. Employee education and training in the safe use and handling of this product is required under the OSHA Hazard Communication Standard 29CFR1200. Smoking in area where this material is used should be strictly prohibited. Always use protective clothing and equipment. Remove all contaminated clothing and wash thoroughly when finished working. Keep food and drink away from material and from area where material is being used. Spraying of material can cause an oxygen deficient environment. Use proper ventilation to remove vapors, mist and fumes combined with NIOSH approved respirator.

**Respiratory Protection:** When working with this material use a MSHA/NIOSH approved cartridge respirator or suitable respiratory protection to keep airborne mists and vapor concentrations below the PEL & TLV limits. When using in poorly ventilated and confined spaces, use a fresh-air supplying respirator or a self-contained breathing apparatus.

**Eye/Face Protection:** Use safety glasses with chemical splash goggles or faceshield.

**Skin Protection:** Use chemical resistant gloves.

**Body Protection:** Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Contaminated Gear:** Take off contaminated clothing immediately and wash before reuse.

### Section 9 – Physical and Chemical Properties

This mixture typically exhibits the following properties under normal circumstances:

Appearance: Pale Yellow Odor: Organic Solvent pH: No data available Freezing point: No data available Flash point: -4 F, -20 C Flammability: No data available Vapor Pressure: 38.9 mmHg Density (Lb/Gal) 6.60 Partition coefficient (n-octanol water): No data available Decomposition temperature: No data available Regulatory Coating VOC g/L 742 Actual Coating VOC g/L 656 Weight Percent Volatile 94.51 % Weight VOC 83.01 % Wt Exempt VOC 11.50	Physical State: Liquid Odor Threshold: No data available Melting point: No data available Boiling range: 56° C Evaporation rate: No data available Explosive Limits: 1% - 13% Vapor Density: 1.7 Solubility: No data available Autoignition temperature: 343° C Viscosity: No data available Regulatory Coating VOC lb/gal: 6.19 Actual Coating VOC lb/ga: 5.48 Specific Gravity (SG): 0.791 % Weigh Water 0.0 % Vol Exempt VOC: 11.48
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### Section 10 – Stability and Reactivity

**Reactivity:** No data available

**Stability:** Stable under recommended storage conditions

**Possibility of hazardous reactions:** Vapors may form explosive mixture with air. Hazardous polymerization will not occur.

**Conditions to avoid:** Heat, flame and sparks. Extreme temperature and direct sunlight.

**Incompatibility with:** Acids, Strong bases, Strong oxidizers

**Hazardous products produced under decomposition:** Carbon Monoxide, Carbon Dioxide.

## Section 11 – Toxicological Information

### Mixture Toxicity

**Oral Toxicity:** 3.27mg/kg

**Dermal Toxicity:** 4,363 mg/kg

**Inhalation Toxicity:** 17 mg/L

### Component Toxicity

64742-89-8	Light Aliphatic Solvent Naphtha (Petroleum) Oral: 5,000 mg/kg (Mouse) Dermal: 3,000 mg/kg (Rabbit)
78-93-3	Methyl Ethyl Ketone Oral: 2,484 mg/kg (Rat) Dermal: 5,000 mg/kg (Rabbit)
110-43-0	Methyl n-Amyl Ketone Oral: 1,600 mg/kg (Rat) Inhalation: 4,000 ppm (Rat)
71-36-3	Butyl Alcohol Oral: 700 mg/kg (Rat) Dermal: 3,402 mg/kg (Rabbit)

This mixture has not been tested for toxicological effects.

### Acute Effects:

**INHALATION** – Dizziness, breathing difficulty, headaches, & loss of coordination

**EYE CONTACT** – Moderate irritation, tearing, redness, and blurred vision

**SKIN CONTACT:** Moderate irritant. Can dry and defat skin causing cracks, irritation, and dermatitis.

**INGESTION:** Can cause gastrointestinal irritation, vomiting, nausea, & diarrhea.

**Chronic Effects:** May affect liver, kidney and central nervous system with repeated exposure. Prolonged or repeated exposure may cause lung injury. May cause skin sensitization or allergic skin reaction.

**Routes of Entry:** Inhalation – Skin Contact – Eye Contact – Ingestion

**Target Organs:** Eyes – Kidneys – Liver – Lungs – Central Nervous System – Reproductive System – Skin – Peripheral Nervous System – Respiratory System - Other

### EFFECTS OF OVEREXPOSURE

**Short Term Exposure** The vapors of butyl alcohols irritates the eyes and respiratory tract. They can irritate the skin and cause rash or burning feeling on contact. May affect the central nervous system. Exposure to high concentrations could cause headache, nausea, vomiting, and dizziness. Exposure to high levels of the n-isomer may cause unconsciousness and may lead to irregular heartbeat. The oral LD50 value for rats for the various isomers are as follows: (n-) 790 mg/kg; (sec-) 6,480 mg/kg; (iso-) 2,460 mg/kg; (tert-) 3,500 mg/kg. Methyl n-amyl ketone can affect you when breathed in and by passing through your skin. Irritates the eyes and the respiratory tract. May affect the central nervous system. Breathing the vapor can cause dizziness and lightheadedness, and can make you pass out. Irritates the eyes and the respiratory tract. May affect the central nervous system. Contact can irritate the skin. Exposure can irritate the eyes and respiratory tract. Exposure to high concentrations can cause dizziness, lightheadedness, and unconsciousness.

**Long Term Exposure** Repeated or prolonged contact with skin may cause dermatitis, drying and cracking of the skin. Exposure to the n-isomer can damage the liver, heart, and kidneys, cause hearing loss and affect sense of balance. Causes skin irritation with cracking and drying; destroys the skin's natural oils. May cause liver and kidney damage. May affect the nervous system. Repeated skin exposure can cause drying and cracking of the skin. This chemical has not been adequately evaluated to determine whether brain or nerve damage could occur with repeated exposure. However, many solvents and other petroleum-based chemicals have been shown to cause such. Effects may include reduced memory and concentration, personality changes (withdrawal, irritability), and fatigue, sleep disturbances, reduced coordination, and/or effects on the nerves to the arms and legs (weakness, "pins and needles"). Has been implicated in certain nervous system and brain disorders characterized by weakness, fatigue, sleep disturbances, reduced coordination, heaviness in chest and numbness of hand and feet. These symptoms may develop after 1 year of exposure to vapor concentrations of 50 – 200 ppm. Improvement is gradual and may take years after exposure is discontinued. Animal tests show that this chemical is a teratogen in animals and possibly causes toxic effects upon human reproduction.

The following chemicals comprise of at least 0.1% of this mixture and are listed and/or classified as carcinogens of potential carcinogens by the NTP, IARC, OSHA (mandatory listing) or ACGIH (optional listing).

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
64742-89-8	Light Aliphatic Solvent Naphtha (Petroleum)	50 to 60%	Light Aliphatic Solvent Naphtha (Petroleum): EU REACH: Present (P)

## Section 12 – Ecological Information

This material has not been tested for ecological effects.

**Persistence and degradability:** No data available.

**Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available

**Other adverse effects:** Contains photochemically reactive solvent.

### Component Ecotoxicity

Light Aliphatic Solvent Naphtha (Petroleum)	72 Hr EC50 Pseudokirchneriella subcapitata: 4700 mg/L
Methyl Ethyl Ketone	96 Hr LC50 Pimephales promelas: 3130 – 3320 mg/L [flow-through] 48 Hr EC40 Daphnia magna: >520 mg/L; 48 Hr EC50 Daphnia magna: 5091 mg/L; 48 Hr EC50 Daphnia magna: 4025-6440 mg/L [Static]
Acetone	96 Hr LC50 Oncorhynchus mykiss: 4.74 – 6.33 mL/L; 96 Hr LC50 Pimephales promelas: 6210-8120 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 8300 mg/L 48 Hr EC50 Daphnia magna: 10294 – 17705 mg/L [Static]; 48 Hr EC50 Daphnia magna: 12600 – 12700 mg/L
Methyl n-Amyl Ketone	96 Hr LC50 Pimephales promelas: 126 – 137 mg/L [flow-through]
Cutyl Alcohol	96 Hr LC50 Pimephales promelas: 1730-1910 mg/L [static]; 96 Hr LC50 Pimephales promelas: 1910000 mg/L [static] 48 Hr EC50 Daphnia magna: 1983 mg/L; 48 Hr EC50 Daphnia magna: 1897 – 2072 mg/L [static] 96 Hr EC50 Desmodesmus subspicatus: >500 mg/L; 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L.

## Section 13 – Disposal Considerations

Product should be disposed of in accordance with all Federal, State and local regulations. Contact a licensed professional waste disposal service to dispose of this material. Subject to hazardous waste generation, treatment, storage and disposal rules under RCRA, 40CFR261.

## Section 14 – Transportation Information

The following transportation information is provided based on MM Systems Corporation's interpretation of shipping regulations. Each shipper is responsible for identifying, naming, marking and labeling prior to offering for transport.

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class
USDOT	Paint Related Material	UN1263	II	3
IMDG	Paint Related Material	UN1263	II	3
IATA	Paint Related Material	UN1263	II	3

For inner packagings not exceeding 5L each packaged in a strong outer box: Limited Quantity

## Section 15 – Regulatory Information

The information listed in this section is not all inclusive of all regulations for this product or the chemical components of this product.

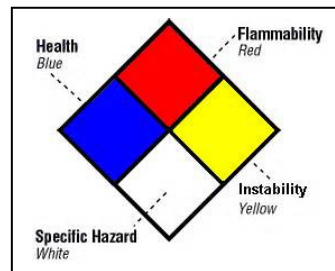
<b>California Hazardous Substance List</b>	None
<b>HAPS</b> – The formulation contains the following HAPS:	None
<b>NJ RTK</b> The following chemicals are listed under New Jersey RTK	71-36-3 Butyl Alcohol 1 to 5% 110-43-0 Methyl n-Amyl Ketone 5 to 10% 67-64-1 Acetone 10 to 20% 78-93-3 Methyl
<b>California Proposition 65</b>	WARNING: This product contains the following chemical(s) known to the State of California to cause birth defects or other reproductive harm – 50-00-1 Formaldehyde 24 PPM
<b>California Proposition 65</b>	WARNING: This product contains the following chemical(s) known to the State of California
<b>PA RTK</b>	The following chemicals are listed under Pennsylvania RTK: 71-36-3 Butyl Alcohol 1 to 5% 110-43-0 Methyl n-Amyl Ketone 5 to 10% 67-64-1 Acetone 10 to 20% 78-93-3 Methyl Ethyl Ketone 10 to 20%
<b>EU REACH SIN</b>	The chemicals listed below are on the EU REACH SIN list None

<b>SARA 312</b>	This Product contains the following chemicals subject to the reporting requirements of SARA 312: 71-36-3 Butyl Alcohol 1 to 5% 78-93-3 Methyl Ethyl Ketone 10 to 20%
<b>SARA 313</b>	This Product contains the following chemicals subject to the reporting requirements of SARA 313: 67-56-1 Methyl Alcohol 30 to 40 PPM 78-93-3 Methyl Ethyl Ketone 10 to 20%
<b>WHMIS</b>	71-36-3 Butyl Alcohol 1 to 5% 110-43-0 Methyl n-Amyl Ketone 5 to 10% 67-64-1 Acetone 10 to 20% 78-93-3 Methyl Ethyl Ketone 10 to 20%
<b>TSCA</b>	The following are not listed under TSCA: None
<b>SARA</b>	The following are reportable under SARA 71-36-3 Butyl Alcohol 1.0 – 5% 64742-89-8 Light Aliphatic Solvent Naphtha (Petroleum) 50 – 60% 78-93-3 Methyl Ethyl Ketone 10 – 20%

**Section 16 – Other Information**

Note: HMIS Ratings involve data and interpretations that can vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all information contained in this SDS must be considered.

<b>HEALTH HAZARD</b> <i>(Possible injury)</i>		<input type="checkbox"/>
<b>FLAMMABILITY</b> <i>(Susceptibility to burning)</i>		<input type="checkbox"/>
<b>REACTIVITY</b> <i>(Susceptibility to release energy)</i>		<input type="checkbox"/>
<b>PERSONAL PROTECTION</b> <i>(Check all Protective Equipment that apply)</i>		
<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Apron	
<input type="checkbox"/> Face Shield	<input type="checkbox"/> Full Suit	
<input type="checkbox"/> Splash Goggles	<input type="checkbox"/> Boots	
<input type="checkbox"/> Vapor Respirator	<input type="checkbox"/> Dust Respirator	
<input type="checkbox"/> Gloves	<input type="checkbox"/> Other _____	



Date Prepared: 1/21/2015

To the best of our knowledge, the information contained herein is accurate, obtained from sources believed by MM Systems Corporation to be accurate. As with all chemicals, KEEP AWAY FROM CHILDREN AND ANIMALS. FOR PROFESSIONAL USE ONLY. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the project under every foreseeable condition.



Revision Number: 003.0

Issue date: 08/08/2014

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>Product name:</b>	<b>LOCTITE 401 ADH INST known as LOCTITE PRISM 401</b>	<b>IDH number:</b>	229586
<b>Product type:</b>	Cyanoacrylate	<b>Item number:</b>	17738
<b>Restriction of Use:</b>	None identified	<b>Region:</b>	United States
<b>Company address:</b>	Henkel Corporation One Henkel Way Rocky Hill, Connecticut 06067	<b>Contact information:</b>	Telephone: (860) 571-5100 MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887 Internet: www.henkelna.com

**2. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**WARNING:** BONDS SKIN IN SECONDS.  
COMBUSTIBLE LIQUID.  
CAUSES EYE IRRITATION.  
MAY CAUSE RESPIRATORY IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	4
EYE IRRITATION	2B
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

**PICTOGRAM(S)**



**Precautionary Statements**

**Prevention:** Keep away from heat, sparks, open flames, hot surfaces - no smoking. Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves, eye protection, and face protection.

**Response:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Call a poison control center or physician if you feel unwell. If eye irritation persists: Get medical attention. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Ethyl 2-cyanoacrylate	7085-85-0	60 - 100
Thickener	Proprietary	5 - 10

\* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

### 4. FIRST AID MEASURES

<b>Inhalation:</b>	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms develop and persist, get medical attention.
<b>Skin contact:</b>	Do not pull bonded skin apart. Soak in warm soapy water. Gently peel apart using a blunt instrument. If skin is burned due to the rapid generation of heat by a large drop, seek medical attention. If lips are bonded, apply warm water to the lips and encourage wetting and pressure from saliva in mouth. Peel or roll lips apart. Do not pull lips apart with direct opposing force.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. Get medical attention. If eyelids are bonded closed, release eyelashes with warm water by covering with a wet pad. Do not force eye open. Cyanoacrylate will bond to eye protein and will cause a lachrymatory effect which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Medical attention should be sought in case solid particles of polymerized cyanoacrylate trapped behind the eyelid caused abrasive damage.
<b>Ingestion:</b>	Ensure breathing passages are not obstructed. The product will polymerize rapidly and bond to the mouth making it almost impossible to swallow. Saliva will separate any solidified product in several hours. Prevent the patient from swallowing any separated mass.
<b>Symptoms:</b>	See Section 11.
<b>Notes to physician:</b>	Surgery is not necessary to separate accidentally bonded tissues. Experience has shown that bonded tissues are best treated by passive, non-surgical first aid. If rapid curing has caused thermal burns they should be treated symptomatically after adhesive is removed.

### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media:</b>	Water spray (fog), foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).
<b>Unusual fire or explosion hazards:</b>	Not available.



**Hazardous combustion products:** Trace amounts of toxic and/or irritating fumes may be released and the use of breathing apparatus is recommended.

## 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

**Environmental precautions:** Do not allow product to enter sewer or waterways.

**Clean-up methods:** Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling. Avoid contact with fabric or paper goods. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors, and cause thermal burns.

**Storage:** Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Ethyl 2-cyanoacrylate	0.2 ppm TWA	None	None	None
Thickener	None	None	None	None

**Engineering controls:** Use positive down-draft exhaust ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

**Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

**Eye/face protection:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists.

**Skin protection:** Use nitrile gloves and aprons as necessary to prevent contact. Do not use PVC, nylon or cotton.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid  
**Color:** Colorless, Transparent  
**Odor:** Sharp  
**Odor threshold:** 1 - 2 ppm  
**pH:** Not available.  
**Vapor pressure:** < 0.2 mm hg  
**Boiling point/range:** > 149 °C (> 300.2 °F)  
**Melting point/ range:** Not available.  
**Specific gravity:** 1.05  
**Vapor density:** Approximate 3  
**Vapor density:** 3  
**Flash point:** 80 - 93 °C (176°F - 199.4 °F)

**Flammable/Explosive limits - lower:** Not available.  
**Flammable/Explosive limits - upper:** Not available.  
**Autoignition temperature:** 485 °C (905°F)  
**Evaporation rate:** Not available.  
**Solubility in water:** Polymerises in presence of water.  
**Partition coefficient (n-octanol/water):** Not applicable  
**VOC content:** < 2 %; < 20 g/l (California SCAQMD Method 316B) (Estimated)  
**Viscosity:** Not available.  
**Decomposition temperature:** Not available.

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.  
**Hazardous reactions:** Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.  
**Hazardous decomposition products:** None  
**Incompatible materials:** Water, Amines, Alkalis, Alcohols.  
**Reactivity:** Not available.  
**Conditions to avoid:** Spontaneous polymerization.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes

### Potential Health Effects/Symptoms

**Inhalation:** May cause respiratory tract irritation. Exposure to vapors above the established exposure limit results in respiratory irritation, which may lead to difficulty in breathing and tightness in the chest.  
**Skin contact:** May cause skin irritation. Bonds skin in seconds. Cyanoacrylates have been reported to cause allergic reaction but due to rapid polymerization at the skin surface, an allergic response is rare. Cyanoacrylates generate heat on solidification. In rare circumstances a large drop will burn the skin. Cured adhesive does not present a health hazard even if bonded to the skin.  
**Eye contact:** Irritating to eyes. Causes excessive tearing. Eyelids may bond.  
**Ingestion:** Not expected to be harmful by ingestion. Rapidly polymerizes (solidifies) and bonds in mouth. It is almost impossible to swallow.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Ethyl 2-cyanoacrylate	None	Irritant, Allergen, Respiratory
Thickener	None	Irritant

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Ethyl 2-cyanoacrylate	No	No	No
Thickener	No	No	No

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.  
**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

### U.S. Department of Transportation Ground (49 CFR)

**Proper shipping name:** Combustible liquid, n.o.s. (Cyanoacrylate ester)  
**Hazard class or division:** Combustible Liquid  
**Identification number:** NA 1993  
**Packing group:** III

### International Air Transportation (ICAO/IATA)

**Proper shipping name:** Aviation regulated liquid, n.o.s. (Cyanoacrylate ester)  
**Hazard class or division:** 9  
**Identification number:** UN 3334  
**Packing group:** III  
**Exceptions:** Primary packs containing less than 500ml are unregulated by this mode of transport and may be shipped unrestricted.

### Water Transportation (IMO/IMDG)

**Proper shipping name:** Not regulated  
**Hazard class or division:** None  
**Identification number:** None  
**Packing group:** None

## 15. REGULATORY INFORMATION

### United States Regulatory Information

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.  
**TSCA 12 (b) Export Notification:** None above reporting de minimis  
**CERCLA/SARA Section 302 EHS:** None above reporting de minimis  
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health, Fire, Reactive  
**CERCLA/SARA Section 313:** None above reporting de minimis  
**California Proposition 65:** No California Proposition 65 listed chemicals are known to be present.

### Canada Regulatory Information

**CEPA DSL/NDSL Status:** Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

## 16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

**Prepared by:** Catherine Bimler, Regulatory Affairs Specialist  
**Issue date:** 08/08/2014

**DISCLAIMER:** The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.



Revision Number: 006.0

Issue date: 10/23/2014

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>Product name:</b>	<b>LOCTITE SF 770 PRIMER known as LOCTITE® 770™ Primer Prism® P</b>	<b>IDH number:</b>	135266
<b>Product type:</b>	Primer	<b>Item number:</b>	18396
<b>Restriction of Use:</b>	None identified	<b>Region:</b>	United States
<b>Company address:</b>	<b>Contact information:</b>		
Henkel Corporation	Telephone: (860) 571-5100		
One Henkel Way	MEDICAL EMERGENCY Phone: Poison Control Center		
Rocky Hill, Connecticut 06067	1-877-671-4608 (toll free) or 1-303-592-1711		
	TRANSPORT EMERGENCY Phone: CHEMTREC		
	1-800-424-9300 (toll free) or 1-703-527-3887		
	Internet: www.henkelna.com		

**2. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**DANGER:** HIGHLY FLAMMABLE LIQUID AND VAPOR.  
MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.  
CAUSES SKIN IRRITATION.  
CAUSES SERIOUS EYE IRRITATION.  
MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	2
SKIN IRRITATION	2
EYE IRRITATION	2A
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3
ASPIRATION HAZARD	1

**PICTOGRAM(S)**



**Precautionary Statements**

**Prevention:** Keep away from heat, sparks, open flames, hot surfaces - no smoking. Keep container tightly closed. No release into water. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves, eye protection, and face protection.

**Response:** IF SWALLOWED: Immediately call a physician or poison control center. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Call a poison control center or physician if you feel unwell. Do NOT induce vomiting. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents and/or container according to Federal, State/Provincial and local

governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
n-Heptane	142-82-5	60 - 100

\* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

### 4. FIRST AID MEASURES

<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.
<b>Skin contact:</b>	Immediately wash skin thoroughly with soap and water. If symptoms develop and persist, get medical attention. Wash clothing before reuse.
<b>Eye contact:</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting. Get medical attention.
<b>Symptoms:</b>	See Section 11.
<b>Notes to physician:</b>	Aspiration may cause pulmonary edema or aspiration pneumonia.

### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media:</b>	Foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.
<b>Unusual fire or explosion hazards:</b>	Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition, and flash back.
<b>Hazardous combustion products:</b>	Oxides of carbon. Oxides of nitrogen.

### 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

<b>Environmental precautions:</b>	Remove all sources of ignition. Do not allow product to enter sewer or waterways.
<b>Clean-up methods:</b>	Ensure adequate ventilation. Store in a partly filled, closed container until disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

- Handling:** Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.
- Storage:** For safe storage, store between 0 °C (32°F) and 49 °C (120.2 °F) Keep in a cool, well ventilated area. Keep container closed. Store away from ignition sources.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
n-Heptane	400 ppm TWA 500 ppm STEL	500 ppm (2,000 mg/m <sup>3</sup> ) PEL	None	None

- Engineering controls:** Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.
- Respiratory protection:** Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respirator use (29 CFR 1910.134).
- Eye/face protection:** Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing. Full face protection should be used if the potential for splashing or spraying of product exists.
- Skin protection:** Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state:** Liquid
- Color:** Transparent, colourless, Clear
- Odor:** Aliphatic
- Odor threshold:** Not available.
- pH:** Not available.
- Vapor pressure:** 35 mm hg (20 °C (68°F))
- Boiling point/range:** 205 - 210 °F (96.1 - 98.9 °C) None
- Melting point/ range:** Not available.
- Specific gravity:** 0.68
- Vapor density:** 3.45
- Flash point:** -2 °C (28.4 °F)
- Flammable/Explosive limits - lower:** 1.1 %
- Flammable/Explosive limits - upper:** 6.7 %
- Autoignition temperature:** Not available.
- Evaporation rate:** 2.7 (Ether = 1)
- Solubility in water:** Not miscible
- Partition coefficient (n-octanol/water):** Not available.
- VOC content:** 99.9 %; 680 g/l
- Viscosity:** Not available.
- Decomposition temperature:** Not available.

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable
<b>Hazardous reactions:</b>	Will not occur.
<b>Hazardous decomposition products:</b>	No data
<b>Incompatible materials:</b>	Acids. Oxidizing agents.
<b>Reactivity:</b>	Not available.
<b>Conditions to avoid:</b>	Heat, flames, sparks and other sources of ignition.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes, Ingestion

### Potential Health Effects/Symptoms

<b>Inhalation:</b>	May cause dizziness, incoordination, headache, nausea, and vomiting.
<b>Skin contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.
<b>Ingestion:</b>	This product may be fatal if it is swallowed. Principal hazard of ingestion is aspiration into the lungs and subsequent pneumonitis.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
n-Heptane	Inhalation LC50 (RAT, 4 h) = 103 mg/l	Central nervous system, Irritant

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
n-Heptane	No	No	No

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

**Recommended method of disposal:** Follow all local, state, federal and provincial regulations for disposal.

**Hazardous waste number:** D001: Ignitable.

## 14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

### U.S. Department of Transportation Ground (49 CFR)

<b>Proper shipping name:</b>	Heptanes
<b>Hazard class or division:</b>	3
<b>Identification number:</b>	UN 1206
<b>Packing group:</b>	II



**International Air Transportation (ICAO/IATA)**

**Proper shipping name:** Heptanes  
**Hazard class or division:** 3  
**Identification number:** UN 1206  
**Packing group:** II  
**Exceptions:** May Qualify as Consumer Commodity, ID8000, (Not more than 500 ml)

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** HEPTANES  
**Hazard class or division:** 3  
**Identification number:** UN 1206  
**Packing group:** II  
**Exceptions:** Limited quantity (Not more than 1 L).

**15. REGULATORY INFORMATION****United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.  
**TSCA 12 (b) Export Notification:** None above reporting de minimis  
**CERCLA/SARA Section 302 EHS:** None above reporting de minimis  
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health, Fire  
**CERCLA/SARA Section 313:** None above reporting de minimis  
**CERCLA Reportable quantity:** n-Heptane (CAS# 142-82-5) 100 lbs. (45.4 kg)  
**California Proposition 65:** No California Proposition 65 listed chemicals are known to be present.

**Canada Regulatory Information**

**CEPA DSL/NDL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

**16. OTHER INFORMATION**

**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Catherine Bimler, Regulatory Affairs Specialist

**Issue date:** 10/23/2014

**DISCLAIMER:** The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.