



Section 1: Identification of the Substance/Mixture and of the Company Undertaking

Product identifier used on the label:

Product Name: SMC/Fiberglass Adhesive – 10 minute

Other means of identification:

Product Codes: 63642504672

Trade Name: Norton SMC Fiberglass Repair Adhesive

Recommended use of the chemical and restrictions on use:

Product Uses: Adhesives
Industrial chemical

Chemical manufacturer address and telephone number:

Manufacturer Name: Saint-Gobain Abrasives, Inc.

Manufacturer Address 1: 1 New Bond Street

Manufacturer City: Worcester

Manufacturer State: MA

Manufacturer Zip Code: 01615

Manufacturer Country: USA

Manufacturer Web: www.Nortonabrasives.com

Business Phone: 508-795-5000

Distributor: Saint-Gobain Canada, Inc.

Distributor Address 1: 28 Albert St, W.

Distributor City: Plattsville

Distributor State: ON

Distributor ZipCode: N0J 1S0

Distributor Country: Canada

Distributor Web: www.Nortonabrasives.com

Distributor Phone: 519-684-7441

Emergency phone number:

Emergency Phone: 508-795-5000

Creation Date: 2019-01-17

Revision Date: 2019-01-17 17:21:09

Notes from Section 1:**CHEMTREC:**

For emergencies in the US, call CHEMTREC: 800-424-9300

For emergencies in Canada, call CHEMTREC: 800-424-9300

PART A:

NFPA:

Health: 2

Flammability: 1

Instability: 1

HMIS III:

HEALTH: 2*

FLAMMABILITY: 1

PHYSICAL HAZARD: 1

0 = Not significant

1 = Slight

2 = Moderate

3 = High

4 = Extreme

* = Chronic

NFPA Flammable and Combustible Liquids Classification: Combustible Liquid Class IIIB

PART B:

NFPA:

Health: 2

Flammability: 1

Instability: 0

HMIS III:

HEALTH: 2*

FLAMMABILITY: 1

PHYSICAL HAZARD: 0

0 = Not significant

1 = Slight

2 = Moderate

3 = High

4 = Extreme

* = Chronic

NFPA Flammable and Combustible Liquids Classification: Combustible Liquid Class IIIB

Section 2: Hazards Identification**Classification of the chemical in accordance with CFR 1910.1200(d)(f):****Signal Words:**

Danger

Product:

GHS Class:	<p>GHS Classification: Skin irritation: Category 2 Eye irritation: Category 2A Respiratory sensitization: Category 1 Skin sensitization: Category 1 Carcinogenicity (Inhalation): Category 2 Reproductive toxicity: Category 2 Specific target organ systemic toxicity - single exposure: Category 3 (Respiratory system) Specific target organ systemic toxicity - repeated exposure (Inhalation): Category 2 (Respiratory system, Respiratory Tract)</p>
Hazard Statements:	<p>H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 - May cause respiratory irritation. H351 - Suspected of causing cancer if inhaled. H361 - Suspected of damaging fertility or the unborn child. H373 - May cause damage to organs (Respiratory system, Respiratory Tract) through prolonged or repeated exposure if inhaled.</p>
Precautionary Statements:	<p>P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P264 - Wash skin thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing must not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P285 - In case of inadequate ventilation wear respiratory protection. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 - Call a POISON CENTER or doctor/ physician if you feel unwell. P305+P351+P338 - IF IN EYES: Rinse cautiously 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/attention. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362 - Take off contaminated clothing and wash before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container to an approved waste disposal plant.</p>

Hazards not otherwise classified that have been identified during the classification process:

Section 3: Composition/Information on Ingredients

Mixtures:

Ingredient Name	CAS Number	Ingredient Percent	EC Number	Comments
PART A: POLYMER		Concentration: > = 10.00 - < 15.00%		
PART A: SCAVENGER		Concentration: > = 10.00 - < 15.00%		
PART A: URETHANE PREPOLYMER		Concentration: > = 5.00 - < 10.00%		
PART A: 4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	Concentration: 35.51%		
PART A: TALC	14807-96-6	Concentration: 10.22%		
PART A: PROPYLENE CARBONATE	108-32-7	Concentration: 1.49%		
PART B: TALC	14807-96-6	Concentration: 25.00%		
PART B: PIPERAZINE	110-85-0	Concentration: 0.76%		
PART B: CARBON BLACK	1333-86-4	Concentration: 0.15%		

Product:

Notes:: Other hazards: None known.

Comments: PART A:
Substance/Mixture: Mixture

Hazardous components

The identity of one or more component(s) is being withheld under business confidentiality.

PART B:
Substance/Mixture: Mixture

Chemical nature: Defatter

Hazardous components

PART A: SCAVENGER:

Comments: CAS-No.: 254504001-5709

Classification:
This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

PART A: 4,4'-DIPHENYLMETHANE DIISOCYANATE:

Comments: Classification:
Acute Tox. 4; H332
Skin Irrit. 2; H315
Eye Irrit. 2A; H319
Resp. Sens. 1; H334
Skin Sens. 1; H317
STOT SE 3; H335
STOT RE 2; H373

PART A: TALC:

Comments: Classification:
This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

PART A: POLYMER:

Comments: CAS-No.: 254504001-5759

Classification:
Acute Tox. 4; H332
Skin Irrit. 2; H315
Resp. Sens. 1A; H334
Skin Sens. 1A; H317
STOT SE 3; H335
STOT RE 2; H373

PART A: PROPYLENE CARBONATE:

Comments: Classification:
Eye Irrit. 2A; H319

PART A: URETHANE PREPOLYMER:

Comments: CAS-No.: 800986-5572P

Classification:
Resp. Sens. 1; H334
Skin Sens. 1; H317

PART B: PIPERAZINE:

Comments: Classification:
 Flam. Sol. 1; H228
 Skin Corr. 1B; H314
 Eye Dam. 1; H318
 Resp. Sens. 1B; H334
 Skin Sens. 1B; H317
 Repr. 2; H361

PART B: TALC:

Comments: Classification: This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

PART B: CARBON BLACK:

Comments: Classification:
 Carc. 2; H351

Section 4: First Aid Measures

Description of necessary measures:

Eye Contact: Immediately flush eye(s) with plenty of water.
 Remove contact lenses.
 Protect unharmed eye.

Skin Contact: Remove contaminated clothing. If irritation develops, get medical attention.
 If on skin, rinse well with water.
 Wash contaminated clothing before re-use.

Inhalation: Move to fresh air.
 Call a physician or poison control centre immediately.
 Keep patient warm and at rest.
 If unconscious place in recovery position and seek medical advice.

Ingestion: If swallowed:
 Obtain medical attention.
 Do not give milk or alcoholic beverages.
 Never give anything by mouth to an unconscious person.
 If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed:**Indication of immediate medical attention and special treatment needed**

Note To Physicians: No hazards which require special first aid measures.

Notes from Section 4:**General advice:**

Move out of dangerous area.
 Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.
 Show this safety data sheet to the doctor in attendance.
 Do not leave the victim unattended.

Most important symptoms and effects, both acute and delayed:

Pulmonary edema may be delayed.
 Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
 Stomach or intestinal upset (nausea, vomiting, diarrhea)
 Irritation (nose, throat, airways)
 Cough
 Headache
 Chest pain
 Lung edema (fluid buildup in the lung tissue)
 Difficulty in breathing
 Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause respiratory irritation.
 Suspected of causing cancer if inhaled.
 Suspected of damaging fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure if inhaled.

Section 5: Firefighting Measures**Suitable and unsuitable extinguishing media****Extinguishing Media:****Suitable:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Water spray
 Foam
 Carbon dioxide (CO₂)
 Dry chemical

Specific extinguishing methods:

Product is compatible with standard fire-fighting agents.

Unsuitable Media:

High volume water jet

Specific hazards arising from the chemical**Hazardous Combustion Products:**

Carbon dioxide and carbon monoxide
 Hydrogen cyanide (hydrocyanic acid)
 Isocyanates
 Nitrogen oxides (NO_x)
 Toxic fumes
 Aldehydes
 Ketones
 Halogenated hydrocarbons
 Nitrogen oxides (NO_x)
 Bromine
 Hydrocarbons

Special protective equipment and precautions for fire-fighters**Fire Fighting Instructions:**

Specific hazards during firefighting:
 Do not allow run-off from fire fighting to enter drains or water courses.

Protective Equipment:

Special protective equipment for firefighters:
 In the event of fire, wear self-contained breathing apparatus.

Notes from Section 5:**Further information:**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personnel Precautions:

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment.

Ensure adequate ventilation.

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Methods and materials for containment and cleaning up

Methods for Containment:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

Methods for Cleanup:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

Environmental precautions

Environmental Precautions:

Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform respective authorities.

Notes from Section 6:

Other information:

Comply with all applicable federal, state, and local regulations.

Section 7: Handling and Storage

Precautions for safe handling

Handling:

Advice on safe handling:

Avoid formation of aerosol.

Provide sufficient air exchange and/or exhaust in work rooms.

Do not breathe vapours/dust.

Do not smoke.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Container hazardous when empty.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Smoking, eating and drinking should be prohibited in the application area.

For personal protection see section 8.

Dispose of rinse water in accordance with local and national regulations.

Hygiene Practices:

Hygiene measures:

Wash hands before breaks and at the end of workday.

When using do not eat or drink.

When using do not smoke.

Conditions for safe storage, including any incompatibilities

Storage:

Conditions for safe storage:

Keep container tightly closed in a dry and well-ventilated place.

Observe label precautions.

Electrical installations/working materials must comply with the technological safety standards.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

Exposure limit:

Components with workplace control parameters:

PART A:

Components: SCAVENGER

CAS-No.: 254504001-5709

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 1 mg/m³ Respirable fraction.

Basis: ACGIH

Components: 4,4'-DIPHENYLMETHANE DIISOCYANATE

CAS-No.: 101-68-8

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 0.005 ppm

Basis: ACGIH

Value type (Form of exposure): REL

Control parameters/Permissible concentration: 0.005 ppm; 0.05 mg/m³

Basis: NIOSH/GUIDE

Value type (Form of exposure): Ceil_Time

Control parameters/Permissible concentration: 0.020 ppm; 0.2 mg/m³

Basis: NIOSH/GUIDE

Value type (Form of exposure): Ceiling

Control parameters/Permissible concentration: 0.02 ppm; 0.2 mg/m³

Basis: OSHA_TRANS

Components: TALC

CAS-No.: 14807-96-6

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 2 mg/m³ Respirable fraction.

Basis: ACGIH

Value type (Form of exposure): REL

Control parameters/Permissible concentration: 2 mg/m³ Respirable.

Basis: NIOSH/GUIDE

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 0.1 mg/m³ Respirable.

Basis: Z3

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 0.3 mg/m³ Total dust.

Basis: Z3

PART B:

Components: TALC

CAS-No.: 14807-96-6

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 2 mg/m³ Respirable fraction.

Basis: ACGIH

Value type (Form of exposure): REL

Control parameters/Permissible concentration: 2 mg/m³ Respirable.

Basis: NIOSH/GUIDE

Value type (Form of exposure): TWA

Control parameters/Permissible concentration: 0.1 mg/m³ Respirable.

Basis: Z3

Basis: Z3

Value type (Form of exposure): TWA
 Control parameters/Permissible concentration: 0.3 mg/m3 Total dust.
 Basis: Z3

Components: CARBON BLACK
 CAS-No.: 1333-86-4
 Value type (Form of exposure): REL
 Control parameters/Permissible concentration: 0.1 mg/m3
 Basis: NIOSH/GUIDE

Value type (Form of exposure): REL
 Control parameters/Permissible concentration: 3.5 mg/m3
 Basis: NIOSH/GUIDE

Value type (Form of exposure): PEL
 Control parameters/Permissible concentration: 3.5 mg/m3
 Basis: OSHA_TRANS

Value type (Form of exposure): TWA
 Control parameters/Permissible concentration: 3 mg/m3 Inhalable fraction.
 Basis: ACGIH

Components: PIPERAZINE
 CAS-No.: 110-85-0
 Value type (Form of exposure): TWA
 Control parameters/Permissible concentration: 0.03 ppm Inhalable fraction and vapor (as piperazine)
 Basis: ACGIH

Value type (Form of exposure): TWA
 Control parameters/Permissible concentration: 0.03 ppm Inhalable fraction and vapor (as piperazine)
 Basis: ACGIHLIS_P

Appropriate engineering controls

Engineering Controls: Engineering measures:
 Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Individual protection measures

Eye Protection: Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin Protection: Wear as appropriate:
 Impervious clothing
 Safety shoes
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
 Discard gloves that show tears, pinholes, or signs of wear.
 Wear resistant gloves (consult your safety equipment supplier).

Hand Protection: Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Protective Clothing: Body protection:
 Wear as appropriate:
 Impervious clothing
 Safety shoes
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
 Discard gloves that show tears, pinholes, or signs of wear.
 Wear resistant gloves (consult your safety equipment supplier).

Respiratory Protection: In the case of vapour formation use a respirator with an approved filter. Diisocyanates have poor warning properties. An air-purifying respirator with an organic vapor cartridge and an N95 prefilter can be used safely and effectively to reduce exposure, provided that appropriate cartridge change schedules are developed to ensure that cartridges are changed before breakthrough occurs. The employer is required to select the appropriate respirator for each situation and must consider potential exposure to chemicals in addition to diisocyanates.

Hygiene Practices: Hygiene measures:
Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

Section 9: Physical and Chemical Properties

Physical and chemical properties

Physical State:	PART A: Liquid PART B: Liquid
	Appearance: PART A: Viscous
Color:	PART A: Beige PART B: Black
Odor:	PART A: No data available PART B: No data available
pH:	PART A: No data available PART B: No data available
Boiling Temperature:	PART A: > 392 deg F/> 200 deg C
Flash Point:	PART A: > 212 deg F/> 100 deg C PART B: > 200.1 deg F/> 93.4 deg C
Lower Flammable Limit:	PART A: No data available PART B: No data available
Upper Flammable Limit:	PART A: No data available PART B: No data available
Decomposition Temperature:	Thermal decomposition: PART A: No data available PART B: No data available
Vapor Pressure:	PART A: < 0.01333 hPa (25 deg C) PART B: 3 hPa (25 deg C) Calculated Vapor Pressure
Vapor Density:	Relative vapour density: PART A: > 1 AIR = 1 PART B: No data available
Density:	PART A: 1.288 g/cm ³ (20 deg C) PART B: Ca. 1.26 g/cm ³ (20 deg C) Relative density: PART A: No data available PART B: 1.26 (25 deg C)
Solubility:	Solubility in other solvents: PART A: No data available PART B: No data available

Solubility In Water:	Water solubility: PART A: Practically insoluble PART B: No data available
Evaporation Rate:	PART A: < 1 n-Butyl Acetate PART B: No data available
Partition Coefficient:	n-octanol/water: PART A: No data available PART B: No data available
Viscosity:	Kinematic: PART A: No data available PART B: No data available
Odor Threshold:	PART A: No data available PART B: No data available
Dynamic Viscosity:	PART A: Ca. 20,000 mPa.s PART B: 23,000 mPa.s
Oxidizing Properties:	PART A: No data available PART B: No data available

Section 10: Stability and Reactivity

Reactivity:

Reactivity: No decomposition if stored and applied as directed.

Possibility of hazardous reactions:
Product will not undergo hazardous polymerization.

Chemical Stability:

Chemical Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions:

Conditions To Avoid:

Conditions To Avoid: Heat
Freezing temperatures.
Exposure to moisture

Incompatible Materials:

Incompatible Materials: Acids
Alcohols
Aluminum
Amines
Ammonia
Bases
Copper alloys
Fluorides
Iron
Isocyanates
Oxidizing agents
Oxidizers
Phosphorus compounds
Strong alkalis
Strong reducing agents
Water
Zinc
Humid air

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide
 Hydrocarbons
 Hydrogen cyanide (hydrocyanic acid)
 Isocyanates
 Nitrogen oxides (NOx)

Section 11: Toxicological Information

Toxicological Information:

Product:

Acute Toxicity: Not classified based on available information.

Route of Exposure: Information on likely routes of exposure:
 Inhalation
 Skin contact
 Eye Contact
 Ingestion

Carcinogenicity: Suspected of causing cancer if inhaled.

Product:
 Carcinogenicity - Assessment:
 Methylene bisphenylisocyanate (MDI) aerosol has been reported to be irritating to lungs at a concentration of 1 mg/m3 with no effect observed at 0.2 mg/m3. Although MDI has been reported to cause an increase in non-carcinogenic lung tumors and a single carcinogenic lung tumor at very high concentrations (6 mg/m3), it is not classified as a carcinogen by IARC, NTP or OSHA.

Mutagenicity: Germ cell mutagenicity:
 Not classified based on available information.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Irritation: Skin corrosion/irritation:
 Causes skin irritation.

Product:
 Remarks: May cause skin irritation and/or dermatitis.

Components: TALC:
 Result: Possibly irritating to skin

Serious eye damage/eye irritation:
 Causes serious eye irritation.

Product:
 Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

Components: TALC:
 Result: Possibly irritating to eyes

Sensitization: Respiratory or skin sensitisation:
 Skin sensitisation: May cause an allergic skin reaction.
 Respiratory sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

OSHA Carcinogen: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

IARC Carcinogen: Chemical Name: TALC
 CAS No.: 14807-96-6
 Group 2B: Possibly carcinogenic to humans

NTP Carcinogen: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Notes from Section 11: Further information:
Product:
Remarks: No data available

PART A: SCAVENGER:

Irritation: Skin corrosion/irritation:
Result: Possibly irritating to skin

Serious eye damage/eye irritation:
Result: Mildly irritating to eyes

PART A: 4,4'-DIPHENYLMETHANE DIISOCYANATE:

Skin Toxicity: Acute dermal toxicity:
LD 50 (Rabbit): > 7,900 mg/kg

Ingestion Toxicity: Acute oral toxicity:
LD 50 (Rat): 9,200 mg/kg

Inhalation Toxicity: Acute inhalation toxicity:
LC 50 (Rat): 0.369 mg/l
Exposure time: 4 h

LC 50 (Rat): > 2.24 mg/l
Exposure time: 1 h
Test atmosphere: Dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Irritation: Skin corrosion/irritation:
Result: Irritating to skin

Serious eye damage/eye irritation:
Result: Irritating to eyes

Sensitization: Respiratory or skin sensitisation:
Assessment: May cause sensitization by inhalation.

Assessment: May cause sensitization by skin contact.

Notes from Section 11: Further information:
Remarks: Lung

PART A: POLYMER:

Skin Toxicity: Acute dermal toxicity:
(Rabbit): > 9,400 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Ingestion Toxicity: Acute oral toxicity:
LD 50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 425
GLP: Yes

Inhalation Toxicity: Acute inhalation toxicity:
Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Mutagenicity:

Germ cell mutagenicity:
 Genotoxicity in vitro:
 Test Type: Ames test
 Result: Negative
 Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo:
 Test Type: In vivo micronucleus test
 Test species: Rat
 Method: OECD Test Guideline 474
 Remarks: Information given is based on data obtained from similar substances.

Irritation:

Skin corrosion/irritation:
 Result: Irritating to skin
 Remarks: Information given is based on data obtained from similar substances.

Serious eye damage/eye irritation:
 Result: Not irritating to eyes
 Remarks: Information given is based on data obtained from similar substances.

Sensitization:

Respiratory or skin sensitisation:
 Test Type: Maximisation Test (GPMT)
 Species: Guinea pig
 Assessment: May cause sensitization by skin contact.
 Result: The product is a skin sensitizer, sub-category 1A.

Assessment: May cause sensitization by inhalation.
 Result: The product is a respiratory sensitizer, sub-category 1A.

PART A: PROPYLENE CARBONATE:**Skin Toxicity:**

Acute dermal toxicity:
 LD 50 (Rabbit): > 24 g/kg

Ingestion Toxicity:

Acute oral toxicity:
 LD 50 (Rat): 29.1 g/kg

Mutagenicity:

Germ cell mutagenicity:
 Test Type: Ames test
 Test species: Salmonella typhimurium
 Metabolic activation: With and without metabolic activation
 Method: OECD Test Guideline 471
 Result: Negative

Genotoxicity in vivo:
 Test Type: Micronucleus test
 Test species: Mouse
 Cell type: Bone marrow
 Method: OECD Test Guideline 474
 Result: Negative

Irritation:

Skin corrosion/irritation:
 Species: Rabbit
 Method: OECD Test Guideline 404
 Result: Not irritating to skin

Serious eye damage/eye irritation:
 Species: Rabbit
 Result: Irritating to eyes
 Method: OECD Test Guideline 405

PART A: URETHANE PREPOLYMER:

Irritation:	<p>Skin corrosion/irritation: Result: Not irritating to skin</p> <p>Serious eye damage/eye irritation: Result: Not irritating to eyes</p>
Sensitization:	<p>Respiratory or skin sensitisation: Assessment: May cause sensitization by skin contact.</p> <p>Assessment: May cause sensitization by inhalation.</p>

PART B: PIPERAZINE:

Ingestion Toxicity:	<p>Acute oral toxicity: LD50 (Rat): Ca. 2,600 mg/kg Method: OECD Test Guideline 401</p>
Inhalation Toxicity:	<p>Acute inhalation toxicity: LC0 (Rat, male and female): 1.61 mg/l Exposure time: 8 h Test atmosphere: Vapour</p>
Reproductive Toxicity:	<p>Reproductive toxicity - Assessment: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.</p>
Irritation:	<p>Skin corrosion/irritation: Result: Corrosive after 3 minutes to 1 hour of exposure</p> <p>Serious eye damage/eye irritation: Result: Corrosive to eyes</p>
Sensitization:	<p>Respiratory or skin sensitisation: Assessment: The product is a respiratory sensitiser, sub-category 1B.</p> <p>Assessment: The product is a skin sensitiser, sub-category 1B.</p>

PART B: CARBON BLACK:

Skin Toxicity:	<p>Acute dermal toxicity: LD 50 (Rabbit): > 3 g/kg</p>
Ingestion Toxicity:	<p>Acute oral toxicity: LD 50 (Rat): > 10,000 mg/kg</p>
Carcinogenicity:	<p>Carcinogenicity - Assessment: Limited evidence of carcinogenicity in inhalation studies with animals.</p>
Irritation:	<p>Skin corrosion/irritation: Result: Not irritating to skin</p> <p>Serious eye damage/eye irritation: Result: Slightly irritating to eyes</p>
IARC Carcinogen:	<p>Group 2B: Possibly carcinogenic to humans</p>

Section 12: Ecological Information

PART A: 4,4'-DIPHENYLMETHANE DIISOCYANATE:

Ecotoxicity:

Toxicity to fish:
 LC50 (*Oryzias latipes* (Orange-red killifish)): > 3,000 mg/l
 Exposure time: 96 h
 Test Type: Semi-static test
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates:
 EC50 (Water flea (*Daphnia magna*)): > 100 mg/l
 Exposure time: 24 h
 Test Type: Static test
 Method: OECD Test Guideline 202
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
 NOEC (Water flea (*Daphnia magna*)): > 10 mg/l
 Exposure time: 21 d
 End point: Reproduction Test
 Test Type: Semi-static test
 Method: OECD Test Guideline 211
 Remarks: Information given is based on data obtained from similar substances.

PART A: POLYMER:**Ecotoxicity:**

Toxicity to fish:
 LC 50 (*Oryzias latipes* (Japanese medaka)): > 3,000 mg/l
 Exposure time: 96 h
 Test Type: Semi-static test
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates:
 (*Daphnia magna* (Water flea)): > 1,000 mg/l
 Exposure time: 24 h
 Test Type: Static test
 Method: OECD Test Guideline 202
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae:
 NOEC (*Desmodesmus subspicatus* (green algae)): 1,640 mg/l
 End point: Growth inhibition
 Exposure time: 72 h
 Test Type: Static test
 Method: OECD Test Guideline 201
 Remarks: Information given is based on data obtained from similar substances.

PART A: PROPYLENE CARBONATE:

Ecotoxicity:

Toxicity to fish:
 LC50 (Cyprinus carpio (Carp)): > 1,000 mg/l
 Exposure time: 96 h
 Test Type: Semi-static test
 Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates:
 EC50 (Water flea (Daphnia magna)): > 1,000 mg/l
 Exposure time: 48 h
 Test Type: Static test
 Method: OECD Test Guideline 202

Toxicity to algae:
 EC50 (Desmodesmus subspicatus (green algae)): > 900 mg/l
 End point: Growth inhibition
 Exposure time: 72 h
 Test Type: Static test
 Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 900 mg/l
 End point: Growth inhibition
 Exposure time: 72 h
 Test Type: Static test
 Method: OECD Test Guideline 201
 LC 50 (Poecilia reticulata (guppy)): > 1,800 mg/l

PART B: PIPERAZINE:**Ecotoxicity:**

Toxicity to fish:
 LC 50 (Poecilia reticulata (guppy)): > 1,800 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
 EC 50 (Water flea (Daphnia magna)): 21 mg/l
 Exposure time: 48 h
 Method: OECD Test Guideline 202

Toxicity to algae:
 EC 50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
 NOEC (Water flea (Daphnia magna)): 12.5 mg/l
 Exposure time: 21 d
 Method: OECD Test Guideline 211

PART A: 4,4'-DIPHENYLMETHANE DIISOCYANATE:**Biodegradation:**

Persistence and degradability:
 Biodegradability:
 Result: Not biodegradable
 Biodegradation: 0%
 Exposure time: 28 d
 Method: OECD Test Guideline 302C
 Remarks: Information given is based on data obtained from similar substances.

PART A: POLYMER:

Biodegradation: Persistence and degradability:
 Biodegradability:
 Result: Not readily biodegradable.
 Biodegradation: 0%
 Exposure time: 28 d
 Method: OECD Test Guideline 302C

PART A: PROPYLENE CARBONATE:

Biodegradation: Persistence and degradability:
 Biodegradability:
 Result: Readily biodegradable
 Biodegradation: 87.1%
 Exposure time: 29 d
 Method: OECD Test Guideline 301B

PART B: PIPERAZINE:

Biodegradation: Persistence and degradability:
 Biodegradability:
 Result: Readily biodegradable
 Biodegradation: 70%
 Exposure time: 28 d
 Method: OECD Test Guideline 301F

PART A: PROPYLENE CARBONATE:

BioAccumulation: Bioaccumulative potential:
 Partition coefficient: n-octanol/water:
 Log Pow: -0.41

PART B: PIPERAZINE:

BioAccumulation: Bioaccumulative potential:
 Partition coefficient: n-octanol/water:
 Log Pow: -1.17

Mobility in soil:

Product:

Notes from Section 12: Mobility in soil:
 Components: No data available

 Other adverse effects: No data available

 Product:
 Additional ecological information: No data available

Section 13: Disposal Considerations

Description of waste:

Waste Disposal: Disposal methods:
 General advice:
 Do not dispose of waste into sewer.
 Do not contaminate ponds, waterways or ditches with chemical or used container.
 Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated Packaging: Empty remaining contents.
 Dispose of as unused product.
 Empty containers should be taken to an approved waste handling site for recycling or disposal.
 Do not re-use empty containers.

Section 14: Transport Information

DOT Other:	U.S. DOT - ROAD: Not dangerous goods U.S. DOT - RAIL: Not dangerous goods U.S. DOT - INLAND WATERWAYS: Not dangerous goods
IMDG:	Not dangerous goods
IATA Other:	INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: Not dangerous goods INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: Not dangerous goods
Canada Other:	TRANSPORT CANADA - ROAD: Not dangerous goods TRANSPORT CANADA - RAIL: Not dangerous goods TRANSPORT CANADA - INLAND WATERWAYS: Not dangerous goods
Notes from Section 14:	MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES: Not dangerous goods *ORM = ORM-D, CBL = COMBUSTIBLE LIQUID Marine pollutant: No Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product:

Regulatory - Product Based:

SARA:

PART A:
EPCRA - Emergency Planning and Community Right-to-Know Act

Section 312 Hazard Category:

PART A:
SARA 311/312 Hazards:
Acute Health Hazard
Chronic Health Hazard

PART B:
SARA 311/312 Hazards: Chronic Health Hazard

State:

California Prop 65:
 WARNING! This product contains a chemical known to the State of California to cause cancer.:
 Chemical Name: QUARTZ/SAND
 CAS No.: 14808-60-7

California Prop 65:
 WARNING! This product contains a chemical known to the State of California to cause cancer.:
 Chemical Name: QUARTZ/SAND
 CAS No.: 14808-60-7

Chemical Name: FURAN
 CAS No.: 110-00-9

Chemical Name: PROPYLENE OXIDE
 CAS No.: 75-56-9

Chemical Name: ACETALDEHYDE
 CAS No.: 75-07-0

Section 313 Toxic Release Form:

PART B:
 SARA 313 Component(s) SARA 313:
 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

TSCA 8(b): Inventory Status:

The components of this product are reported in the following inventories:
 On TSCA Inventory

Canada DSL:

The components of this product are reported in the following inventories:
 All components of this product are on the Canadian DSL.

Australia Chemical Inventory Status:

The components of this product are reported in the following inventories:
 AUSTR: On the inventory, or in compliance with the inventory

Japan Chemical Inventory Status:

The components of this product are reported in the following inventories:
 ENCS: Exempt

Korean Chemical Inventory Status:

The components of this product are reported in the following inventories:
 KECL: On the inventory, or in compliance with the inventory

Philippines Chemical Inventory Status:

The components of this product are reported in the following inventories:
 PICCS: Not in compliance with the inventory

International Chemical Inventory Lists:

The components of this product are reported in the following inventories:
 IECSC: On the inventory, or in compliance with the inventory

Inventories: AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECL (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

Regulatory - Ingredient Based:**PART A: POLYMER:**

Notes 1: Registration: Trade Secret
 Chemical Name: POLYMER
 Identification number: 254504001-5759

PART A: SCAVENGER:

Notes 1: Registration: Trade Secret
 Chemical Name: SCAVENGER
 Identification number: 254504001-5709

PART A: URETHANE PREPOLYMER:

Notes 1: Registration: Trade Secret
 Chemical Name: URETHANE PREPOLYMER
 Identification number: 800986-5572P

PART A: 4,4'-DIPHENYLMETHANE DIISOCYANATE:

Section 304 CERCLA RQ: CERCLA Reportable Quantity:
 Components: 4,4'-DIPHENYLMETHANE DIISOCYANATE
 CAS-No.: 101-68-8
 Component RQ: 5000 lbs
 Calculated product RQ: 14206.159791 lbs

Section 313 Toxic Release Form: SARA 313 Component(s):
 101-68-8 101-68-8 35.51%

PART B: CARBON BLACK:

State: California Prop 65:
 WARNING! This product contains a chemical known to the State of California to cause cancer.:
 Chemical Name: CARBON BLACK
 CAS No.: 1333-86-4

Section 16: Additional Information

Creation Date: 2019-01-17
 Revision Date: 2019-01-17 17:21:09
 Revision Notes: Supersedes: 05/26/2015
 Version Number: 1.1
 Notes from Section 16: PART A:
 NFPA:
 Health: 2
 Flammability: 1
 Instability: 1

 HMIS III:
 HEALTH: 2*
 FLAMMABILITY: 1
 PHYSICAL HAZARD: 1

 0 = Not significant
 1 = Slight
 2 = Moderate
 3 = High
 4 = Extreme
 * = Chronic

NFPA Flammable and Combustible Liquids Classification: Combustible Liquid Class IIIB

PART B:

NFPA:

Health: 2

Flammability: 1

Instability: 0

HMIS III:

HEALTH: 2*

FLAMMABILITY: 1

PHYSICAL HAZARD: 0

0 = Not significant

1 = Slight

2 = Moderate

3 = High

4 = Extreme

* = Chronic

NFPA Flammable and Combustible Liquids Classification: Combustible Liquid Class IIIB

Full text of H-Statements referred to under sections 2 and 3.:

PART A:

H228 Flammable solid.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer if inhaled.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

PART B:

H228 Flammable solid.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H351 Suspected of causing cancer if inhaled.

H361 Suspected of damaging fertility or the unborn child.

Sources of key data used to compile the Safety Data Sheet

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH: American Conference of Industrial Hygienists

BEI: Biological Exposure Index

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

CMR: Carcinogenic, Mutagenic or Toxic for Reproduction

FG: Food grade

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement: Hazard Statement

IATA: International Air Transport Association.

IATA DGR: Dangerous Goods Regulation by the "International Air Transport

IATA-DGR: "Dangerous Goods Regulation by the International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization

ICAO-TI (ICAO): Technical Instructions by the "International Civil Aviation Organization"

IMDG: International Maritime Code for Dangerous Goods

ISO: International Organization for Standardization

logPow: Octanol-water partition coefficient

LCxx: Lethal Concentration, for xx percent of test population

LDxx: Lethal Dose, for xx percent of test population.

ICxx: Inhibitory Concentration for xx of a substance

Ecxx: Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD: Organization for Economic Co-operation and Development

OEL: Occupational Exposure Limit

P-Statement: Precautionary Statement

PBT: Persistent, Bioaccumulative and Toxic

PPE: Personal Protective Equipment

STEL: Short-term exposure limit

STOT: Specific Target Organ Toxicity

TLV: Threshold Limit Value

TWA: Time-weighted average

vPvB: Very Persistent and Very Bioaccumulative

WEL: Workplace Exposure Level

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

DOT: Department of Transportation

FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC: Hazardous Materials Information Review Commission

HMIS: Hazardous Materials Identification System

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

PMRA: Health Canada Pest Management Regulatory Agency

RTK: Right to Know

WHMIS: Workplace Hazardous Materials Information System

Other Information:

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