



<b>SAFETY DATA SHEET</b>		Revision Date: 07/31/2018
		Print Date: 2/27/2019
		SDS Number: 000000093475
UPC Number: 63642504615 140331	NORTON 1 MIN 100 X 100 ML Urethane Structural Adhesive (1 minute)	Version: 1.7

29 CFR 1910.1200 (OSHA HazCom 2012)

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product identifier**  
Trade name : UPC Number: 63642504615  
4615 NORTON 1 MIN 100 X 100 ML  
Urethane Structural Adhesive (1 minute) Part A&B

### Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Adhesives  
Industrial chemical

<b>Supplier of the safety data sheet:</b>  Saint-Gobain Abrasives, Inc. 1 New Bond Street Worcester, MA 01615 United States of America (USA) General Phone: 800-551-4413  Saint-Gobain Canada, Inc. 28 Albert Street, W. Plattsville, ON N0J 1S0 General Phone: 519-684-7441	<b>Emergency telephone number:</b> 508-795-5000  <b>Website:</b> <a href="http://www.Nortonabrasives.com">www.Nortonabrasives.com</a>  <b>CHEMTREC:</b> For emergencies in the US and Canada call: 800-424-9300
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## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Acute toxicity (Inhalation) : Category 4  
  
Skin irritation : Category 2  
  
Eye irritation : Category 2A  
  
Respiratory sensitization : Category 1  
  
Skin sensitization : Category 1  
  
Reproductive toxicity : Category 2  
  
Specific target organ systemic toxicity - single exposure : Category 3 (Respiratory system)  
  
Specific target organ : Category 2 (Respiratory system, Respiratory Tract)

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systemic toxicity - repeated  
exposure (Inhalation)

**GHS label elements**

Hazard pictograms



Signal Word

: Danger

Hazard Statements

: Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Harmful if inhaled.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause respiratory irritation.  
Suspected of damaging fertility or the unborn child.  
May cause damage to organs (Respiratory system, Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary Statements

: **Prevention:**  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
Wash skin thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
In case of inadequate ventilation wear respiratory protection.  
**Response:**  
IF ON SKIN: Wash with plenty of soap and water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF exposed or concerned: Get medical advice/ attention.  
If skin irritation or rash occurs: Get medical advice/ attention.  
If eye irritation persists: Get medical advice/ attention.  
Take off contaminated clothing and wash before reuse.  
**Storage:**  
Store in a well-ventilated place. Keep container tightly closed.

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Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****PART A**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Classification	Concentration (%)
POLYMER	254504001-5759	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Resp. Sens. 1A; H334 Skin Sens. 1A; H317 STOT SE 3; H335 STOT RE 2; H373	>= 10.00 - < 15.00
ALUMINUM SILICATES	254504001-5709	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).	>= 10.00 - < 15.00
URETHANE PREPOLYMER	800986-5572P	Resp. Sens. 1; H334 Skin Sens. 1; H317	>= 5.00 - < 10.00

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4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	Comb Dust 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	35.5153
TALC	14807-96-6	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).	10.224
PROPYLENE CARBONATE	108-32-7	Eye Irrit. 2A; H319	1.4964

**PART B**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Classification	Concentration (%)
TALC	14807-96-6	This material is not considered hazardous under the OSHA Hazard	24.21

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		Communication Standard (HazCom 2012).	
PIPERAZINE	110-85-0	Flam. Sol. 1; H228 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1B; H334 Skin Sens. 1B; H317 Repr. 2; H361	0.76

**SECTION 4. FIRST AID MEASURES**

- 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.
- If inhaled : 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.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.
- 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.



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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.
- Harmful if inhaled.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause respiratory irritation.
- Suspected of damaging fertility or the unborn child.
- May cause damage to organs through prolonged or repeated exposure if inhaled.

Notes to physician : No hazards which require special first aid measures.

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## SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

- Water spray
- Foam
- Carbon dioxide (CO<sub>2</sub>)
- Dry chemical

Unsuitable extinguishing media : High volume water jet

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

Hazardous combustion products : carbon dioxide and carbon monoxide  
Hydrogen cyanide (hydrocyanic acid)  
Isocyanates  
Nitrogen oxides (NO<sub>x</sub>)  
toxic fumes  
Aldehydes

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Ketones  
halogenated hydrocarbons  
nitrogen oxides (NOx)  
Bromine  
Hydrocarbons

Specific extinguishing  
methods

:

Product is compatible with standard fire-fighting agents.

Further information

:

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

Special protective equipment  
for firefighters

:

In the event of fire, wear self-contained breathing apparatus.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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.

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.

Methods and materials for  
containment and cleaning up

:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

Other information

:

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

**SECTION 7. HANDLING AND STORAGE**

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.

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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.

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****Components with workplace control parameters****PART A**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ALUMINUM SILICATES	254504001-5709	TWA	1 mg/m3 Respirable fraction (Aluminium)	ACGIH

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4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	TWA	0.005 ppm	ACGIH
TALC	14807-96-6	TWA	20 Million particles per cubic foot Dust	OSHA Z-3
		TWA	2 mg/m3 respirable dust fraction	OSHA P0
		TWA	2 mg/m3 Respirable	NIOSH REL
		PEL	2 mg/m3 Respirable dust	CAL PEL


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		TWA	0.1 fibres per cubic centimeter	ACGIH
		TWA	2 mg/m3 Respirable fraction	ACGIH

**Hazardous components without workplace control parameters**
**PART A**

Components	CAS-No.
POLYMER	254504001-5759
URETHANE PREPOLYMER	800986-5572P

**PART A**

PROPYLENE CARBONATE	108-32-7
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**PART B**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TALC	14807-96-6	TWA	20 Million particles per cubic foot Dust	OSHA Z-3
		TWA	2 mg/m3 respirable dust fraction	OSHA P0
		TWA	2 mg/m3 Respirable	NIOSH REL
		PEL	2 mg/m3 Respirable dust	CAL PEL
		TWA	0.1 fibres per cubic centimeter	ACGIH
		TWA	2 mg/m3 Respirable fraction	ACGIH
CARBON BLACK	1333-86-4	TWA	3 mg/m3 Inhalable fraction	ACGIH
		TWA	3.5 mg/m3	NIOSH REL
		TWA	3.5 mg/m3	OSHA Z-1
		TWA	3.5 mg/m3	OSHA P0
		PEL	3.5 mg/m3	CAL PEL
		TWA	0.1 mg/m3 (PAHs)	NIOSH REL

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PIPERAZINE	110-85-0	TWA	0.03 ppm Inhalable fraction and vapor (piperazine)	ACGIH
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**Hazardous components without workplace control parameters****PART B**

Components	CAS-No.
PIPERAZINE	110-85-0

**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.

**Personal protective equipment**

**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.

**Hand protection**  
**Remarks**

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

**Eye protection**

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

**Skin and 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).

**Hygiene measures**

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

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****PART A**

Appearance	: viscous
Physical state	: liquid
Colour	: beige
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Boiling point/boiling range	: > 392 °F / > 200 °C
Flash point	: > 100 °C
Evaporation rate	: < 1 n-Butyl Acetate = 1
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: < 0.01333 hPa (25 °C)
Relative vapour density	: > 1(Air = 1.0)
Relative density	: No data available
Density	: 1.288 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	
Water solubility	: practically insoluble
Solubility in other solvents	: No data available
Partition coefficient: n-	: No data available

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octanol/water

Thermal decomposition : No data available

Viscosity

Viscosity, dynamic : ca. 20,000 mPa.s

Viscosity, kinematic : No data available

Oxidizing properties : No data available

**PART B**

Physical state : liquid

Colour : black

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Boiling point/boiling range : No data available

Flash point : > 93.4 °C  
Method: Seta closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : 3 hPa (25 °C)  
Calculated Vapor Pressure

Relative vapour density : No data available

Relative density : 1.225 (77.00 °F)

Density : 1.225 g/cm<sup>3</sup> (77.00 °F)

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Solubility(ies)  
 Water solubility : No data available  
 Solubility in other solvents : No data available  
 Partition coefficient: n-octanol/water : No data available  
 Thermal decomposition : No data available  
 Viscosity  
 Viscosity, dynamic : 20,000 mPa.s  
 Viscosity, kinematic : No data available  
 Oxidizing properties : No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.  
 Chemical stability : Stable under recommended storage conditions.  
 Possibility of hazardous reactions : Product will not undergo hazardous polymerization.  
 Conditions to avoid : heat  
 Freezing temperatures.  
 Exposure to moisture  
 Incompatible materials : Acids  
 Alcohols  
 aluminum  
 Amines  
 Ammonia  
 Bases  
 Copper alloys  
 fluorides  
 Iron  
 isocyanates  
 Oxidizing agents  
 oxidizers  
 Phosphorus compounds  
 strong alkalis  
 strong reducing agents

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water  
Zinc  
Humid airHazardous decomposition  
productscarbon dioxide and carbon monoxide  
Hydrocarbons  
Hydrogen cyanide (hydrocyanic acid)  
Isocyanates  
Nitrogen oxides (NOx)**SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion**Acute toxicity**

Harmful if inhaled.

**Components:****POLYMER:**Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 425  
GLP: yesAcute inhalation toxicity : Assessment: The component/mixture is classified as acute  
inhalation toxicity, category 4.Acute dermal toxicity : (Rabbit): > 9,400 mg/kg  
Remarks: Information given is based on data obtained from  
similar substances.**Components:****4,4'-DIPHENYLMETHANE DIISOCYANATE:**

Acute oral toxicity : LD50 (Rat): 9,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.369 mg/l  
Exposure time: 4 hLC50 (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.

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Acute dermal toxicity : LD50 (Rabbit): &gt; 7,900 mg/kg

**TALC:**Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 423**PROPYLENE CARBONATE:**

Acute oral toxicity : LD50 (Rat): 29.1 g/kg

Acute dermal toxicity : LD50 (Rabbit): &gt; 24 g/kg

**PIPERAZINE:**Acute oral toxicity : LD50 (Rat): ca. 2,600 mg/kg  
Method: OECD Test Guideline 401Acute inhalation toxicity : LC0 (Rat, male and female): 1.61 mg/l  
Exposure time: 8 h  
Test atmosphere: vapour**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Remarks: May cause skin irritation and/or dermatitis.

**Components:****POLYMER:**

Result: Irritating to skin.

Remarks: Information given is based on data obtained from similar substances.

**ALUMINUM SILICATES:**

Result: Slight, transient irritation

**URETHANE PREPOLYMER:**

Result: No skin irritation

**Components:****4,4'-DIPHENYLMETHANE DIISOCYANATE:**

Result: Irritating to skin.

**TALC:**

Species: reconstructed human epidermis (RhE)

Result: No skin irritation

**PROPYLENE CARBONATE:**

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Species: Rabbit  
 Method: OECD Test Guideline 404  
 Result: No skin irritation

PIPERAZINE:  
 Result: Corrosive after 3 minutes to 1 hour of exposure

**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:****POLYMER:**

Result: No eye irritation

Remarks: Information given is based on data obtained from similar substances.

Result: Irritating to eyes.

**ALUMINUM SILICATES:**

Result: Slight, transient irritation

**URETHANE PREPOLYMER:**

Result: No eye irritation

**Components:****4,4'-DIPHENYLMETHANE DIISOCYANATE:**

Result: Irritating to eyes.

**TALC:**

Species: Rabbit

Result: Slight, transient irritation

Method: OECD Test Guideline 405

**PROPYLENE CARBONATE:**

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

**PIPERAZINE:**

Result: Corrosive

**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.

**Components:**



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**POLYMER:**

Test Type: Maximisation Test

Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Result: The product is a skin sensitiser, sub-category 1A.

Assessment: May cause sensitisation by inhalation.

Result: The product is a respiratory sensitiser, sub-category 1A.

**URETHANE PREPOLYMER:**

Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitisation by inhalation.

**Components:****4,4'-DIPHENYLMETHANE DIISOCYANATE:**

Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

**TALC:**

Test Type: Maximisation Test

Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

**PIPERAZINE:**

Assessment: The product is a respiratory sensitiser, sub-category 1B.

Assessment: The product is a skin sensitiser, sub-category 1B.

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****POLYMER:**

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



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similar substances.

#### **Components:**

##### **TALC:**

- Genotoxicity in vitro : Test Type: In vitro gene mutation study in bacteria  
Test species: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Result: negative
- : Test Type: In vitro gene mutation study in bacteria  
Test species: Saccharomyces cerevisiae  
Metabolic activation: with and without metabolic activation  
Result: negative
- Genotoxicity in vivo : Test Type: dominant lethal test  
Test species: Rat (male)  
Cell type: Bone marrow  
Result: negative

##### **PROPYLENE CARBONATE:**

- Genotoxicity in vitro : 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

#### **Carcinogenicity**

Not classified based on available information.

##### **Product:**

- Carcinogenicity - Assessment : Methylene bisphenylisocyanate (MDI) aerosol has been reported to be irritating to lungs at a concentration of 1 mg/m<sup>3</sup> with no effect observed at 0.2 mg/m<sup>3</sup>. 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/m<sup>3</sup>), it is not classified as a carcinogen by IARC, NTP or OSHA.

#### **Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

##### **Components:**

##### **PIPERAZINE:**

- Reproductive toxicity - : Some evidence of adverse effects on sexual function and



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Assessment fertility, and/or on development, based on animal experiments.

**STOT - single exposure**

May cause respiratory irritation.

**Components:**

POLYMER:

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

**Components:**

4,4'-DIPHENYLMETHANE DIISOCYANATE:

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause respiratory irritation.

**STOT - repeated exposure**

May cause damage to organs (Respiratory system, Respiratory Tract) through prolonged or repeated exposure if inhaled.

**Components:**

POLYMER:

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Components:**

4,4'-DIPHENYLMETHANE DIISOCYANATE:

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Aspiration toxicity**

Not classified based on available information.

**Further information**

**Product:**

Remarks: No data available

**Carcinogenicity:**

**IARC**

Group 2B: Possibly carcinogenic to humans

CARBON BLACK

1333-86-4

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP**

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.



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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic hazard : Not classified based on available information.

#### Components:

##### POLYMER:

Toxicity to fish : LC50 (*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.

##### 4,4'-DIPHENYLMETHANE DIISOCYANATE:

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 (*Daphnia magna* (Water flea)): > 100 mg/l  
Exposure time: 24 h  
Test Type: static test  
Method: OECD Test Guideline 202

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Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 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.

**PROPYLENE CARBONATE:**

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 (Daphnia magna (Water flea)): > 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

**PIPERAZINE:**

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 1,800 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 21 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 12.5 mg/l

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aquatic invertebrates  
(Chronic toxicity)Exposure time: 21 d  
Method: OECD Test Guideline 211**Persistence and degradability****Components:****POLYMER:**Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302C**4,4'-DIPHENYLMETHANE DIISOCYANATE:**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.**TALC:**

Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

**PROPYLENE CARBONATE:**Biodegradability : Result: Readily biodegradable.  
Biodegradation: 87.1 %  
Exposure time: 29 d  
Method: OECD Test Guideline 301B**PIPERAZINE:**Biodegradability : Result: Readily biodegradable.  
Biodegradation: 70 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

No data available

**Bioaccumulative potential****Components:****PROPYLENE CARBONATE:**

Partition coefficient: n-octanol/water : log Pow: -0.41

No data available

**Mobility in soil****Components:**

No data available

**Other adverse effects**

No data available

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**Product:**

Additional ecological information : No data available

**Components:****SECTION 13. DISPOSAL CONSIDERATIONS****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****International transport regulations****REGULATION**

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

**U.S. DOT - ROAD**

Not dangerous goods

**CFR\_RAIL\_C**

Not dangerous goods

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**TDG\_ROAD\_C**

Not dangerous goods
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**TDG\_RAIL\_C**

Not dangerous goods

**TDG\_INWT\_C**

Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

Not dangerous goods

**MX\_DG**

Not dangerous goods

**\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant	no
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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****PART A****EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	5000	14078

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.



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**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
 Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Respiratory or skin sensitisation  
 Specific target organ toxicity (single or repeated exposure)

**SARA 302** : This material does not contain any components with a section 302 EHS TPQ.

**SARA 313** The following components are subject to reporting levels established by SARA Title III, Section 313:  
 4,4'-DIPHENYLMETHANE 101-68-8 35.51 %  
 DIISOCYANATE

**California Prop 65** which is/are known to the State of California to cause cancer.  
 For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).  
 TALC 14807-96-6  
 QUARTZ / SAND 14808-60-7

**PART B**  
**EPCRA - Emergency Planning and Community Right-to-Know Act**  
**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Reproductive toxicity

**SARA 302** : This material does not contain any components with a section 302 EHS TPQ.

**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.

**California Prop 65** which is/are known to the State of California to cause cancer.  
 For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).  
 TALC 14807-96-6  
 CARBON BLACK 1333-86-4

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QUARTZ / SAND 14808-60-7

FURAN 110-00-9

PROPYLENE OXIDE 75-56-9

ACETALDEHYDE 75-07-0

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

- TSCA : On TSCA Inventory
- DSL : All components of this product are on the Canadian DSL.
- AICS : On the inventory, or in compliance with the inventory
- ENCS : Exempt
- KECI : On the inventory, or in compliance with the inventory
- PICCS : Not in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**Registration: Trade secret**

Chemical name	Identification number
POLYMER	254504001-5759
ALUMINUM SILICATES	254504001-5709
URETHANE PREPOLYMER	800986-5572P

**SECTION 16. OTHER INFORMATION****Further information**

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**PART A****NFPA:****HMIS III:**

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<p>Flammability</p> <p>Health</p> <p>Instability</p> <p>Special hazard.</p>	<table border="1"> <tr><td style="background-color: blue; color: white;"><b>HEALTH</b></td><td></td></tr> <tr><td style="background-color: red; color: white;"><b>FLAMMABILITY</b></td><td></td></tr> <tr><td style="background-color: yellow;"><b>PHYSICAL HAZARD</b></td><td></td></tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	<b>HEALTH</b>		<b>FLAMMABILITY</b>		<b>PHYSICAL HAZARD</b>	
<b>HEALTH</b>							
<b>FLAMMABILITY</b>							
<b>PHYSICAL HAZARD</b>							

**NFPA Flammable and Combustible Liquids Classification**

Combustible Liquid Class IIIB

**PART B**

<p>Flammability</p> <p>Health</p> <p>Instability</p> <p>Special hazard.</p>	<p><b>NFPA:</b></p> <table border="1"> <tr><td style="background-color: blue; color: white;"><b>HEALTH</b></td><td></td></tr> <tr><td style="background-color: red; color: white;"><b>FLAMMABILITY</b></td><td></td></tr> <tr><td style="background-color: yellow;"><b>PHYSICAL HAZARD</b></td><td></td></tr> </table> <p><b>HMIS III:</b></p> <table border="1"> <tr><td style="background-color: blue; color: white;"><b>HEALTH</b></td><td></td></tr> <tr><td style="background-color: red; color: white;"><b>FLAMMABILITY</b></td><td></td></tr> <tr><td style="background-color: yellow;"><b>PHYSICAL HAZARD</b></td><td></td></tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	<b>HEALTH</b>		<b>FLAMMABILITY</b>		<b>PHYSICAL HAZARD</b>		<b>HEALTH</b>		<b>FLAMMABILITY</b>		<b>PHYSICAL HAZARD</b>	
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<b>PHYSICAL HAZARD</b>													

**NFPA Flammable and Combustible Liquids Classification**

Combustible Liquid Class IIIB

**Full text of H-Statements****PART A**

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 or breathing difficulties if



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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