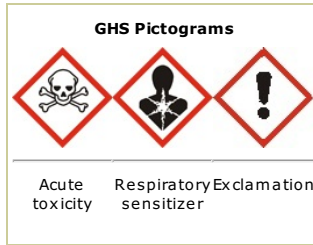


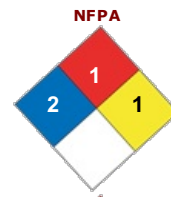
ERROR --

Kit Name: **Structural Adhesive - Urethane (5 minute)**
 Stock No.: 04616
 Manufacturer Name: Saint-Gobain Abrasives, Inc.
 Address: 1 New Bond Street
 Worcester, MA 01615



SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Structural Adhesive - Urethane (5 minute) Part 1**
 Product Code: 04616A
 Manufacturer Name: Saint-Gobain Abrasives, Inc.
 Address: 1 New Bond Street
 Worcester, MA 01615
 Website: www.Nortonabrasives.com
 General Phone Number: 508-795-5000
 Emergency Phone Number: 508-795-5000



HMIS

Health Hazard	2
Fire Hazard	1
Reactivity	1
Personal Protection	1

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Talc (no asbestos)	14807-96-6	5 - 10 by weight	
4,4 DiPhenylmeth.DiIsocyanate	101-68-8	30 - 40 by weight	615-005-00-9
Colloidal Silica	68611-44-9	3 - 7 by weight	
Urethane Prepolymer	Trade Secret	20 - 30 by weight	
MDI Homopolymer	25686-28-6	10 - 15 by weight	
Calcium monoxide	1305-78-8	1 - 3 by weight	215-138-9
Aluminum oxide	1344-28-1	1 - 3 by weight	215-691-6
Sodium oxide	1313-59-3	1 - 3 by weight	
Silicon dioxide	7631-86-9	1 - 5 by weight	

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: WARNING! Potential Sensitizer. Irritant.
 Route of Exposure: Eyes. Skin. Inhalation. Ingestion.
 Potential Health Effects:
 Eye: Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury..
 Skin: Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible.

May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.

Inhalation: Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.

Ingestion: Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.

Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point: 200 °F (93.3 °C)

Flash Point Method: SETA

Auto Ignition Temperature: Not determined.

Lower Flammable/Explosive Limit: Not determined.

Upper Flammable/Explosive Limit: Not determined.

Fire Fighting Instructions: Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.

Extinguishing Media: Use carbon dioxide (CO₂) or dry chemical when fighting fires involving this material.

Unsuitable Media: Water or foam may cause frothing.

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Ratings:

NFPA Health: 2

NFPA Flammability: 1

NFPA Reactivity: 1

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Spill Cleanup Measures: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in Section 8.

Other Precautions: Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Handling: Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.

Storage: Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.

Special Handling Procedures: Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.

Hygiene Practices: Wash thoroughly after handling.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Eye/Face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

Skin Protection Description: Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult

manufacturer's data for permeability data.

Respiratory Protection: A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective: Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Talc (no asbestos):

Guideline ACGIH: 2 mg/m³
TLV-TWA: 1 mg/m³ Respirable fraction (R)
TLV-TWA: 2 mg/m³ Respirable fraction (R)

Guideline OSHA: 20 mppcf
PEL-TWA: 20 mppcf

4,4 DiPhenylmeth.DiIsocyanate:

Guideline ACGIH: 0.005 ppm
TLV-TWA: 0.005 ppm

Guideline OSHA: PEL-Ceiling/Peak: 0.02 ppm

Calcium monoxide:

Guideline ACGIH: TLV-TWA: 2 mg/m³

Guideline OSHA: PEL-TWA: 5 mg/m³

Aluminum oxide:

Guideline ACGIH: TLV-TWA: 10 mg/m³

Guideline OSHA: PEL-TWA: 5 mg/m³ Respirable fraction (R)
PEL-TWA: 15 mg/m³ Total particulate/dust (T)

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State: Liquid.

Color: No Data

Odor: No Data

Boiling Point: Not determined.

Melting Point: Not determined.

Specific Gravity: 1.288 @70 °F

Vapor Pressure: <0.010 mmHg @ 77 °F

Percent Volatile: Not determined.

Evaporation Rate: Slower than ether.

Flash Point: 200 °F (93.3 °C)

Flash Point Method: SETA

Auto Ignition Temperature: Not determined.

VOC Content: Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.

Hazardous Polymerization: Not reported.

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions.

Incompatible Materials: Oxidizers, acids, and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/ oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds.

SECTION 11 : TOXICOLOGICAL INFORMATION

Talc (no asbestos):

RTECS Number: WW2710000

4,4 DiPhenylmeth.DiIsocyanate:

RTECS Number: NQ9350000

Eye: Eye - Rabbit Standard Draize test.: 100 mg

Skin: Oral - Rat LD50: 9200 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Nutritional and Gross Metabolic - Body temperature decrease]
Oral - Mouse LD50: 2200 mg/kg [Details of toxic effects not reported other than lethal dose value]

Inhalation: Inhalation - Rat LC50: 178 mg/m³ [Details of toxic effects not reported other than lethal dose value]

Ingestion: Oral - Rat LD50: 9200 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Nutritional and Gross Metabolic - Body temperature decrease]
Oral - Mouse LD50: 2200 mg/kg [Details of toxic effects not reported other than lethal dose value]

Calcium monoxide:

RTECS Number: EW3100000

Aluminum oxide:

RTECS Number: BD1200000

Inhalation: Inhalation - Rat TCl₀: 200 mg/m³/5H/28W (Intermittent) [Lungs, Thorax, or Respiration - Structural or functional change in trachea or bronchi; Lungs, Thorax, or Respiration - Chronic pulmonary edema; Related to Chronic Data - death] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity: No ecotoxicity data was found for the product.

Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

RCRA Number: None.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Non regulated.

DOT UN Number: Non regulated.

IATA Shipping Name: Non regulated.

IATA UN Number: Non regulated.

SECTION 15 : REGULATORY INFORMATION

Talc (no asbestos):

TSCA Inventory Status: Listed

Canada DSL: Listed

4,4 DiPhenylmeth.DiIsocyanate :

TSCA Inventory Status: Listed

SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.

Canada DSL: Listed

EC Number: 615-005-00-9

Calcium monoxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

EC Number: 215-138-9

Aluminum oxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

EC Number: 215-691-6

Canada WHMIS: WHMIS Hazard Class(es): D2B
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

SECTION 16 : ADDITIONAL INFORMATION

Label Hazard Warning: H331 - Toxic if inhaled.
H372 - Causes damage to organs through prolonged or repeated exposure.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.

Label Precautions: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P284 - In case of inadequate ventilation wear respiratory protection.
P302+P352 - IF ON SKIN: Wash with plenty of 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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311 - Call a POISON CENTER or doctor/physician.
P314 - Get medical advice/attention if you feel unwell.
P321 - P332+P313 - If skin irritation occurs: 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.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

HMIS Ratings:

HMIS Health Hazard: 2
HMIS Fire Hazard: 1
HMIS Reactivity: 1
HMIS Personal Protection: 1

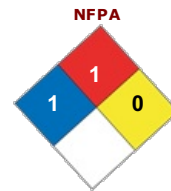
SDS Creation Date: August 09, 2010
SDS Revision Date: December 14, 2015
MSDS Revision Notes: GHS Update

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SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Structural Adhesive - Urethane (5 minute) Part 2**
Product Code: 04616B
Manufacturer Name: Saint-Gobain Abrasives, Inc.
Address: 1 New Bond Street
Worcester, MA 01615
Website: www.Nortonabrasives.com
General Phone Number: 508-795-5000
Emergency Phone Number: 508-795-5000



HMIS	
Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	1

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Urethane prepolymer	Proprietary	5 - 15 by weight	
Polyether Polyol	Not Available	30 - 40 by weight	
Talc	14807-96-6	20 - 30 by weight	
Oxirane, methyl-, polymer with	9082-00-2	18 - 21 by weight	
Amorphous silica	68909-20-6	1 - 5 by weight	
Clay	71011-26-2	1 - 3 by weight	
Carbon black	1333-86-4	0.1 - 1.0 by weight	

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Potential Sensitizer. Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury..
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	200 °F (93.3 °C)
Flash Point Method:	SETA
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water or foam may cause frothing.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in Section 8.
Other Precautions:	Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Talc :

Guideline ACGIH:	2 mg/m ³ TLV-TWA: 1 mg/m ³ Respirable fraction (R) TLV-TWA: 2 mg/m ³ Respirable fraction (R)
Guideline OSHA:	20 mppcf PEL-TWA: 20 mppcf

Carbon black :

Guideline ACGIH:	3.5 mg/m ³ TLV-TWA: 3.5 mg/m ³
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SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid.
Color:	Black.
Odor:	No Data
Boiling Point:	Not determined.
Melting Point:	Not determined.
Specific Gravity:	1.288 @77 °F
Vapor Pressure:	Not determined.
Percent Volatile:	Not determined.
Evaporation Rate:	Not determined.
Flash Point:	200 °F (93.3 °C)
Flash Point Method:	SETA
Auto Ignition Temperature:	Not determined.
VOC Content:	Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions.
Incompatible Materials:	Oxidizers, acids, and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/ oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds.

SECTION 11 : TOXICOLOGICAL INFORMATION

Talc :

RTECS Number: WW2710000

Oxirane, methyl-, polymer with :

RTECS Number: TQ8180000

Skin: Oral - Rat LD50 : >10 gm/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Rabbit LD50 : >30 gm/kg [Details of toxic effects not reported other than lethal dose value]

Ingestion: Oral - Rat LD50 : >10 gm/kg [Details of toxic effects not reported other than lethal dose value]

Carbon black :

RTECS Number: FF5800000
Skin: Oral - Rat LD50: >15400 mg/kg [Behavioral - Somnolence (general depressed activity)]
Administration onto the skin - Rabbit LD50: >3 gm/kg [Details of toxic effects not reported other than lethal dose value]
Ingestion: Oral - Rat LD50: >15400 mg/kg [Behavioral - Somnolence (general depressed activity)]

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity: No ecotoxicity data was found for the product.
Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number: None.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Non regulated.
DOT UN Number: Non regulated.
IATA Shipping Name: Non regulated.
IATA UN Number: Non regulated.

SECTION 15 : REGULATORY INFORMATION

Talc :

TSCA Inventory Status: Listed
Canada DSL: Listed

Oxirane, methyl-, polymer with :

TSCA Inventory Status: Listed
Canada DSL: Listed

Carbon black :

TSCA Inventory Status: Listed
California PROP 65: Listed: cancer.
Canada DSL: Listed
Canada WHMIS: WHMIS Hazard Class(es): D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

SECTION 16 : ADDITIONAL INFORMATION

Label Hazard Warning: H372 - Causes damage to organs through prolonged or repeated exposure.
H351 - Suspected of causing cancer.
Label Precautions: 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/vapours/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

HMIS Ratings:

HMIS Health Hazard: 1
HMIS Fire Hazard: 1
HMIS Reactivity: 0
HMIS Personal Protection: 1

SDS Creation Date: August 09, 2010
SDS Revision Date: December 14, 2015
MSDS Revision Notes: GHS Update

