

SAFETY DATA SHEET

SDS No: 00134
Version: V01

GLOSS-FIL HARDENER

PRODUCT CODE(S): H-9801/H-9802/H-9803

Preparation Date: October 23, 2019

1. IDENTIFICATION

Product identifier

Product Name: GLOSS-FIL FAST HARDENER /
GLOSS-FIL MEDIUM HARDENER /
GLOSS-FIL SLOW HARDENER

Other means of identification

Product Code(s): H-9801/ H-9802 / H-9803

Product type: Liquid

Synonyms: None

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

Recommended Use: Hardener for Clearcoat. Coating. Painting-related materials.
For Professional and Industrial Use Only

Restricted Uses: No information available

**Manufacturer /
Supplier Identifier:** Durafil Auto Technologies Inc.
1360 Blundell Road,
Mississauga, ON L4Y 1M5 Canada
Telephone: 905-896-7171

Emergency Telephone Number: 905-896-7171 (Monday to Friday 8 am - 5 pm EST, Canada)

24 Hour Emergency Phone Number (CANUTEC): (613) 996-6666 or 1-888-226-8832

2. HAZARDS IDENTIFICATION

OSHA/HCS Status:

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

Classification of the substance or mixture

GHS Classification	Category
Flammable Liquids	3
Acute Toxicity - Inhalation (Vapors)	4
Skin Corrosion/Irritation	2
Serious Eye Damage/Eye Irritation	2A
Respiratory Sensitization	1
Skin Sensitization	1
Specific Target Organ Toxicity (Single Exposure) (Respiratory tract irritation)	3

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GHS label elements**Hazard pictograms:****Signal Word: Danger****Hazard Statements:**

Highly flammable liquid and vapor
Harmful in contact with skin
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
May cause drowsiness and dizziness
May cause an allergic skin reaction
May cause damage to organs through prolonged or repeated exposure (central nervous system (CNS), kidneys, liver)
Harmful to aquatic life

Precautionary Statements**Prevention:**

Obtain special instructions before use
Read label before use
Do not handle until all safety precautions have been read and understood
Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
Keep container tightly closed
Use explosion-proof electrical, ventilating, lighting, and all material-handling equipment
Ground and bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Do not breathe dust, fume, gas, mist, vapors, spray
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 and face protection
Wear respiratory protection
If medical advice is needed, have product container or label at hand
Wash contaminated clothing before reuse
Wash contacted skin thoroughly after handling
Avoid release to the environment
Do not eat, drink or smoke when using product
Keep out of reach of children

Response:

Call a POISON CENTER or doctor/physician if you feel unwell. IF exposed or concerned: Get medical attention.
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.

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If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Storage:

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

Disposal:

Dispose of contents/container to hazardous or special waste collection point
Dispose of contents and containers in accordance with local, regional, national and international regulations

Hazards not otherwise classified (HNOC) or not covered by GHS:

Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Moisture-sensitive material. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Other information

Unknown acute toxicity:

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Mixture
Product name(s): GLOSS-FIL FAST HARDENER / GLOSS-FIL MEDIUM HARDENER / GLOSS-FIL SLOW HARDENER
Other means of identification: None

CAS number/other identifiers

GLOSS-FIL Fast Hardener contains ingredients: 1, 2, 5, 6.
GLOSS-FIL Medium Hardener contains ingredients: 1, 2, 3, 6.
GLOSS-FIL Slow Hardener contains ingredients: 1, 2, 4, 5, 6.

	Chemical / Ingredient Name	CAS No.	Weight %	Synonyms
1	Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	40 - 70	Not available
2	Tertiary butyl acetate	540-88-5	30 - 50	Not available
3	Xylene, mixture of isomers	1330-20-7	3 - 15	Not available
4	Ethyl 3-ethoxypropionate	763-69-9	3 - 15	Not available
5	n-Butyl Acetate	123-86-4	0 - 5	Not available
6	Hexamethylene-di-isocyanate	822-06-0	0.1 - 0.4	Not available

Any concentration shown as a range above is to protect confidentiality.
This product(s) also contains 53 - 56% of other ingredients which are considered non-hazardous.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Notes: The Xylene has Ethylbenzene, CAS No. 100-41-4 as part of it's composition. There are three chemical forms (isomers) of xylene, ortho-xylene, meta-xylene, and para-xylene. Commercial xylene, generally referred to as xylene (mixed isomers) is a mixture of widely varying proportions of these three isomers (with m-xylene predominating), together with ethylbenzene (6-20%).

4. FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures**General advice:**

Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation:

Avoid inhalation of vapor or mist. Remove person to fresh air and keep comfortable for breathing. Keep person warm and at rest. If breathing difficulties persists, seek medical attention. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Remove contact lenses, if present and easy to do. Seek medical advice. If eye irritation persists: seek medical attention.

Skin contact:

Take off all contaminated clothing immediately. Wash exposed area thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners to wash off. In the case of skin irritation or allergic reactions see a physician.

Ingestion:

May produce an allergic reaction. If swallowed, seek medical attention immediately and have product container or label at hand. Do NOT induce vomiting unless directed to do so by physician or poison control center. Clean mouth with water and drink afterwards plenty of water. Stop if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Keep person warm and at rest. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed**Potential acute health effects****Eye Contact:**

Causes eye irritation.

Inhalation:

Harmful if inhaled. This product contains ingredients which may produce an allergic respiratory response. May cause respiratory tract irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Treat as a respiratory sensitizer. May cause shortness of breath, intoxication, headache, nausea, vomiting, respiratory tract irritation. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms may include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. May cause headache, dizziness, nausea, vomiting, breathing difficulties, confusion, and unconsciousness. Exposure to high vapor or mist concentrations may cause central nervous system depression. Symptoms of (CNS) depression include dizziness, headache, nausea, fatigue, vomiting and in-coordination.

Skin contact:

Causes skin irritation. Defatting of the skin. May cause skin dryness and irritation. Harmful if absorbed through the skin. May cause an allergic skin reaction. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact may cause skin sensitization. In case of skin irritation or allergic reactions see a physician.

Ingestion:

Harmful if swallowed. May result in gastrointestinal distress.

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pain or irritation, watering, redness**Inhalation:**Adverse symptoms may include the following:
respiratory tract irritation, coughing, wheezing or breathing difficulties, asthma, shortness of breath**Skin contact:**Adverse symptoms may include the following:
Irritation, redness, dryness, cracking**Ingestion:**

No specific data

Indication of any immediate medical attention and special treatment needed

No data available on the product. See section 3 and 11 for hazardous ingredients found on the product. Seek professional medical attention for all over-exposures and/or persistent problems.

Note to physicians:

Treatment based on sound judgment of physician and individual reactions of patient. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments:

No specific antidote

Self-protection of the first-aider:

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media:**Use dry chemical, Carbon dioxide (CO₂), water spray (fog) or foam**Unsuitable extinguishing media:**

Do not use water jet

Specific hazards arising from the substance or mixture:

Flammable liquid and vapor. Isolate and restrict area access. Runoff to sewer may create fire or explosion hazard. Product will burn under fire conditions. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Containers exposed to intense heat from fires should be cooled with water spray to prevent vapor pressure build-up which could result in container rupture. Reacts with water releasing large amounts of carbon dioxide which may cause pressure build-up in confined spaces. This product can produce flammable vapors which may travel to a source of ignition and flash back. Emits toxic fumes under fire conditions.

Hazardous combustion products:

Decomposition products may include the following materials: carbon oxides, nitrogen oxides, cyanate and isocyanate, hydrogen cyanide

Special protective actions for fire-fighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters:

Highly toxic fumes may be generated by thermal decomposition. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Dike and collect water used to fight fire. Do not allow run-off from firefighting to enter public sewer systems or public waterways.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****For non-emergency personnel:**

No action shall be taken involving any personal risk or without suitable training. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Avoid breathing vapors and mist. Eliminate all sources of ignition. Take precautionary measures against static discharges. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. No flares, smoking or flames in hazard area. Keep people away from and upwind of spill/leak. Beware of vapors accumulating to form explosive concentrations. All equipment used when handling the product must be grounded. See Section 8 for more information.

For emergency responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Refer to protective measures listed in Sections 7 and 8. See Section 12 for additional Ecological information. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up**Small spill:**

Prevent further leakage or spillage if safe to do so. Do not breathe vapors. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Large spill:

Prevent further leakage or spillage if safe to do so. Ventilate area. Do not breathe vapors. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Approach release from up-wind. Prevent entry into sewers, water courses, basements or confined areas. Do not touch or walk through spilled material. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, vermiculite, diatomaceous earth) and place in container for disposal according to local/national regulations (see Section 13). The contaminated area should be cleaned immediately with a suitable decontaminant. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air). If the material is mixed with an isocyanate hardener/activator: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 80% Water and 20% non-ionic surfactant (Tergitol TM 10) OR 0-10% concentrated ammonia, 2-5% Detergent and Water (balance). One possible (flammable) decontaminant comprises (by volume): 45 parts water, 50 parts ethanol or isopropyl alcohol and 5 parts concentrated ammonia. A non-flammable alternative is 5 parts sodium carbonate and 95 parts water. Pressure can be generated. Remove containers to a safe place. Do not seal waste containers for 48 hours to allow CO₂ to vent. After 48 hours, material may be sealed and disposed of properly. Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see Section 13). If material does not contain or is not mixed with an isocyanate hardener/activator: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing.

Special provision:

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see Section 13). Contaminated absorbent material may pose the same hazard as the spilled product. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Protective measures:

Observe label precautions. Handle and open containers with care. Use appropriate personnel protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Do not breathe product vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Take precautionary measures against electrostatic discharges. Ground and bond container and receiving equipment. Use only non-sparking tools. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Keep in the original container or an approved alternative made from compatible material, kept tightly closed when not in use. DO NOT handle or store near open flame, heat, or other sources of ignition. DO NOT pressurize, cut, heat, or weld containers. Empty containers may contain hazardous product residues. Keep containers closed when not in use. Protect against physical damage. Do not reuse container. Do not apply to hot surfaces. Avoid water contamination in closed containers or confined areas, because carbon dioxide gas is generated. Sealed containers should be protected against heat as this results in pressure build-up. Follow all SDS/label precautions even after container is emptied because they may retain product residues. Wash thoroughly after handling. See Section 10 for additional information.

Special precautions:

Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Precautions should be taken to avoid exposure to atmospheric humidity or water. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all its parts. Proper ventilation and respiratory protection are required when sanding, flame cutting, welding or brazing coated surfaces.

Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information on hygiene measures.

Conditions for safe storage including any incompatibilities:

Keep container tightly closed and sealed until ready for use. Keep away from heat, sparks, open flames and hot surfaces. Keep away from water. Protect against moisture. Store in accordance with local regulations. Store in a segregated and approved area. Store locked up. Store in a cool, dry and well-ventilated place. Precautions should be taken to avoid exposure to atmospheric humidity and water. Evolution of CO₂ in closed containers causes overpressure and produces a risk of bursting. Eliminate all ignition sources. Store in original container protected from direct sunlight. No smoking. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Protect from direct sunlight. Store protected against freezing. Protect from temperatures above 45°C/113°F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits:

Chemical / Ingredient Name	CAS No.	Alberta	British Columbia	Ontario	Quebec	Exposure Limit ACGIH	Immediately Dangerous to Life or Health-IDLH
Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	Not available	Not available	Not available	Not available	Not available	Not available

Continued, Occupational exposure limits:

Chemical / Ingredient Name	CAS No.	Alberta	British Columbia	Ontario	Quebec	Exposure Limit ACGIH	Immediately Dangerous to Life or Health-IDLH
Tertiary butyl acetate	540-88-5	TWA: 200 ppm TWA: 950 mg/m ³	TWA: 200 ppm	TWA: 200 ppm	TWA: 200 ppm TWA: 950 mg/m ³	150 ppm STEL 50 ppm TLV-TWA	1500 ppm
Xylene, mixture of isomers *	1330-20-7	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 150 ppm STEL: 651 mg/m ³	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 150 ppm STEL: 651 mg/m ³	150 ppm STEL 100 ppm TLV-TWA	Not available
Ethyl 3-ethoxypropionate	763-69-9	Not available	Not available	TWA: 50 ppm TWA: 300 mg/m ³	Not available	Not available	Not available
n-Butyl acetate	123-86-4	TWA: 150 ppm TWA: 713 mg/m ³ STEL: 200 ppm STEL: 950 mg/m ³	TWA: 20 ppm	TWA: 150 ppm STEL: 200 ppm	TWA: 150 ppm TWA: 713 mg/m ³ STEL: 200 ppm STEL: 950 mg/m ³	150 ppm STEL 50 ppm TLV-TWA	1700 ppm
Hexamethylene-di-isocyanate *	822-06-0	TWA: 0.005 ppm TWA: 0.03 mg/m ³	TWA: 0.005 ppm Ceiling: 0.01 ppm Sensitizer	TWA: 0.005 ppm CEV: 0.02 ppm	TWA: 0.005 ppm TWA: 0.034 mg/m ³	0.005 ppm TLV-TWA	Not available

Limits are 8 hour unless otherwise specified. Consult local authorities for recommended exposure limits

Glossary:

- * Absorbed through Skin
- ACGIH American Conference of Governmental Industrial Hygienists
- OEL Occupational Exposure Limit
- ppm Parts Per Million
- STEL Short Term Exposure Limit
- TLV Threshold Limit Value
- TWA Time Weighted Average

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards.

Appropriate engineering controls

Engineering controls:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof electrical, ventilating, lighting and motorized equipment. Use non-sparking tools. Ground and bond container and receiving equipment. Use proper ventilation to remove vapors, mist and fumes combined with NIOSH approved respirator.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Do not let product enter drains.

Individual protection measures

Hygiene measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash skin thoroughly with soap and water or use recognized skin cleanser. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Regular cleaning of equipment, work area and clothing recommended. Eye washes and safety showers in the workplace are recommended. Avoid contact with skin and eyes.

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Chemical splash goggles. If safety glasses are substituted, include splash guard or side shields. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Hand protection:

Appropriate chemical resistant gloves should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties.

Gloves:

Appropriate chemical resistant gloves should be worn. Butyl rubber gloves. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility etc) is noticed. Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing. Use PE gloves under gloves for difficult situations like for instance: high exposure, unknown composition or unknown properties of the chemicals.

Skin and body protection:

Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling the product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overall, boots and gloves. Body protection must be chosen based on activity level and exposure.

Other skin protection:

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection:

Do not breathe vapors or mists. Wear a positive-pressure, supplied air respirator (NIOSH approved TC-19C), while mixing activator with paint, during application and until all vapors and spray mists are exhausted. When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards. Full-face supplied-air respirators (SAR) are required in work environments where isocyanate airborne concentrations have not been characterized or are expected to exhibit considerable and sudden variations such as in spray type applications. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Follow respirator manufacturer's directions for respirator use. Respirators must be used according a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Restrictions on use:

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

General safety and hygiene considerations:

Avoid contact with skin, eyes, or clothing. Always use protective clothing and equipment. Keep food and drink away from material and from area where material is being used. Employee education and training in the safe use and handling of isocyanates is required under the OSHA Hazard Communication Standard 29CFR1200. Smoking in area where this material is used is strictly prohibited. Wash hands before breaks and immediately after handling the product. Remove all contaminated clothing and wash thoroughly when finished working.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

Physical State	Liquid
Color	Colorless
Odor	Organic solvent
Odor threshold	No data available

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Properties

Values

pH (waterborne systems only)	Not applicable	
Melting point	No data available	
Boiling point/range, approximate	~ 110 °C / 230 °F	
Flash point	No data available	
Evaporation rate (Air=1)	Slower than Air	
Flammability (solid, gas)	No data available	
Lower and upper explosive (flammable) limits	Lower: No data available Upper: No data available	
Vapor pressure of principal solvent	~41.5 mmHg @ 25°C (Tertiary butyl acetate)	
Vapor density (Air = 1)	Heavier than air	
Relative density	0.987 - 1.028	
Density (kg / gal)	3.73 - 3.89	
Density (lbs / gal)	8.23 - 8.58	
Solubility	No data available	
Partition coefficient: n-octanol/water	No data available	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	
Percent Weight Water	0	
Percent Volatile By Volume	51 ± 2	
Percent Solids By Weight	55 ± 2	
VOC* Less exempt	(g/L)	(lbs/gal)
H-9801 GLOSS-FIL Fast Hardener	0	0
H-9802 GLOSS-FIL Medium Hardener	117	0.98
H-9803 GLOSS-FIL Slow Hardener	101	0.84
VOC, As applied. Ready-To-Spray (RTS) with C-9800 GLOSS-FIL Clearcoat:	(g/L)	(lbs/gal)
H-9801 GLOSS-FIL Fast Hardener	234	1.95
H-9802 GLOSS-FIL Medium Hardener	250	2.09
H-9803 GLOSS-FIL Slow Hardener	248	2.07

VOC less exempt (theoretical) and VOC as applied (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. STABILITY AND REACTIVITY

Reactivity:
No data available.

Chemical stability:
Stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous reactions:
Under normal conditions of storage and use, hazardous reactions will not occur. Reacts with water. On contact with water gaseous decomposition products are formed which cause build-up of pressure in tightly closed containers. Hazardous polymerization may occur.

Conditions to avoid:
Avoid all sources of ignition: heat, sparks or open flames. Extreme temperature and direct sunlight. Avoid electrostatic discharge. Precautions should be taken to avoid exposure to atmospheric humidity and water. Evolution of CO₂ in closed containers causes overpressure and produces risk of bursting. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Segregate from Incompatible materials.

Incompatible materials:

Strong acids, strong bases, strong oxidizing agents, amines, alcohols and water. Will react slowly with water and moisture in the air. Uncontrolled exothermic reactions occur with amines and alcohols.

Hazardous decomposition products:

Decomposition products may include the following materials: carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, smoke, monomeric isocyanates. Under hot, acidic conditions are isobutylene and acetic acid. Thermal decomposition: Risk of polymerization above the indicated temperature in the presence of moisture and isocyanate reactive substances.

11. TOXICOLOGICAL INFORMATION

This mixture has not been tested for toxicological effects.

Information on likely routes of exposure

Inhalation:

Harmful if inhaled. This product contains ingredients which may produce an allergic respiratory response. Treat as respiratory sensitizer. May cause dizziness, shortness of breath, headaches, nausea, vomiting, confusion, respiratory tract irritation and loss of coordination. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product. Symptoms can be delayed for several hours.

Eye contact:

Causes eye irritation. Moderate pain or irritation, watering, redness and blurred vision. No known significant effects or critical hazards.

Skin contact:

Harmful if absorbed through the skin. May cause an allergic skin reaction. Causes moderate skin irritation. Repeated or prolonged contact may cause defatting and drying of the skin which may result in skin irritation and dermatitis. Skin irritation signs and symptoms may include a burning sensation, redness, swelling and blisters.

Ingestion:

Harmful if swallowed. Can cause gastrointestinal irritation, vomiting, nausea, and diarrhea.

Information on toxicological effects

Symptoms related to the physical, chemical and toxicological characteristics:

Skin contact may aggravate existing skin disease. Prolonged and repeated contact with the skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Prolonged or high exposures may cause CNS effects, liver adrenal gland and kidney changes. The kidney findings are not likely relevant to humans.

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity:

There are no data available on the mixture itself. See Component Information below.

Component Information:

Chemical / Ingredient Name	CAS No.	Oral LD50	Dermal LD50	Inhalation LC50
Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	Not available	Not available	18500 mg/m ³ (Rat) 1 h
Tertiary butyl acetate	540-88-5	4100 mg/kg (Rat)	>2000 mg/kg (Rabbit)	13300 mg/m ³ (Rat) 4 h
Xylene, mixture of isomers	1330-20-7	3500 mg/kg (Rat)	>4350 mg/kg (Rabbit)	29.08 mg/L (Rat) 4 h

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Continued, Component Information:

Chemical / Ingredient Name	CAS No.	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl 3-ethoxypropionate	763-69-9	5 g/kg	>9500 mg/kg (Rabbit)	>5.96 mg/L (Rat) 6 h
n-Butyl acetate	123-86-4	10768 mg/kg (Rat)	>17600 mg/kg (Rabbit)	390 ppm (Rat) 4 h
Hexamethylene-di-isocyanate	822-06-0	710 µL/kg (Rat)	593 mg/kg (Rabbit)	0.06 mg/L (Rat) 1 h

Conclusion/Summary:

There are no data available on the mixture itself.

Delayed and immediate effects and also chronic effects from short and long term exposure

Skin corrosion/irritation:

Causes skin irritation. May cause an allergic skin reaction. Harmful if absorbed through the skin. Prolonged contact may cause severe irritation, with local discomfort or pain, and local redness or swelling.

Serious eye damage/eye irritation:

Cause eye irritation.

Respiratory or skin sensitization:

May cause sensitization by inhalation. May cause sensitization by skin contact.

Conclusion/Summary:

There are no data available on the mixture itself. Skin contact to isocyanate monomer may lead to allergic reaction. Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies: This mixture may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheezing and tightness of the chest. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Repeated exposure may lead to permanent respiratory disability. Skin contact may aggravate existing skin disease. Repeated skin contact may cause dermal irritation, dryness and cracking. Exposure to component solvents vapor concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness, and in extreme cases loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Germ cell mutagenicity:

No information available.

Carcinogenicity:

No information available on the mixture itself. This product contains ethylbenzene. The International Agency for Research on Cancer has evaluated ethylbenzene and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

Component Carcinogenicity:

Chemical / Ingredient Name	ACGIH	IARC	NTP	OSHA
Hexane, 1,6-diisocyanato-, homopolymer	Not Listed	Not Listed	Not available	Not available
Tert-Butyl Acetate	Not Listed	Not Listed	Not available	Not available
Xylene, mixture of isomers	Not available	Group 3	Not available	Not available
Ethyl 3-ethoxypropionate	Not Listed	Not Listed	Not Listed	Not Listed
n-Butyl Acetate	Not Listed	Not Listed	Not available	Not available
Hexamethylene-di-isocyanate	Not Listed	Not Listed	Not available	Not available

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Legend

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity:

There are no data on the mixture itself. Suspected of damaging fertility or the unborn child. n-Butyl acetate: In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to parent animals. Xylene, mixture of isomers: Although abnormal sperm count after an interperitoneal injection in rats, xylene did not produce reproductive effects. An increase in menstrual disorders has been reported in women exposed to organic solvents but it is not possible to attribute this to xylene alone. Xylene has produced fetotoxic effects (delayed ossification and behavioral effects) in animals, in the absence of maternal toxicity. Ethylbenzene may be absorbed through the skin. Laboratory animal studies have shown it to cause embryotoxic, reproductive, and developmental effects.

Specific target organ systematic toxicity - repeated exposure:

May cause respiratory irritation. There are no data on the mixture itself.

Target Organs:

Contains material which may cause damage to the following organs:
kidneys, lungs, the nervous system, upper respiratory tract, skin

Aspiration Hazard:

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

There are no data available on the mixture itself.

Component Ecotoxicity:

Chemical / Ingredient Name	Ecotoxicity - Fresh-water Algae Data	Ecotoxicity - Fish Species Data	Toxicity to microorganisms	Crustacea
Hexane, 1,6-diisocyanato-, homopolymer	Not available	>100 mg/L LC50 (Danio rerio) 96 h static	Not available	EC50: >100 mg/L (48 h Daphnia magna)
Tert-Butyl Acetate	Not available	296-362 mg/L LC50 (Pimephales promelas) 96 h flow-through	Not available	Not available
Xylene, mixture of isomers	11 mg/L EC50 (Pseudokirchneriella subcapitata) 72 h	13.1 - 16.5 mg/L LC50 (Lepomis macrochirus) 96 h flow-through 17.3 mg/L LC50 (Oncorhynchus mykiss) 96 h 23.53 - 29.97 mg/L LC50 (Pimephales promelas) 96 h static	Not available	LC50: 0.6 mg/L (48 h, Gammarus lacustris) EC50: 3.82 mg/L (48 h water flea)
Ethyl 3-ethoxypropionate	Not available	62 mg/L LC50 (Pimephales promelas) 96 h static	Not available	EC50: 970 mg/L (48 h Daphnia magna)
n-Butyl Acetate	674.7 mg/L EC50 (Desmodesmus subspicatus) 72 h	17 - 19 mg/L LC50 (Pimephales promelas) 96 h flow-through 100 mg/L LC50 (Lepomis macrochirus) 96 h static	Not available	Not available
Hexamethylene-di-isocyanate	Not available	26.1 mg/L LC50 (Brachydanio rerio) 96 h static	Not available	Not available

Persistence and degradability

No information available

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Bioaccumulation

No information available for the mixture itself. See component information below.

Component Information:

Chemical / Ingredient Name	CAS No.	Partition Coefficient
Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	Not available
Tert-Butyl Acetate	540-88-5	1.38
Xylene, mixture of isomers	1330-20-7	2.77 - 3.15
Ethyl 3-ethoxypropionate	763-69-9	1.35
n-Butyl Acetate	123-86-4	1.81
Hexamethylene-di-isocyanate	822-06-0	Not available

Mobility in soil:

No information available

Other adverse effects:

No information available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. The generation of waste should be avoided or minimized wherever possible. Do not reuse empty containers. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Waste packaging should not be recycled. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. This material and its container must be disposed of in a safe way. Should not be released into the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

<p>Land Transport:</p> <p>UN Number: 1263</p> <p>Proper Shipping Name: PAINT RELATED MATERIAL</p> <p>Transport Hazard Class: 3</p> <p>Packing Group: II</p> <p>Marine Pollutant: Not available</p>	<p>Canada TDG Classification</p>	<p>Land Transport:</p> <p>UN Number: 1263</p> <p>Proper Shipping Name: PAINT RELATED MATERIAL</p> <p>Transport Hazard Class: 3</p> <p>Packing Group: II</p> <p>Marine Pollutant: Not available</p>	<p>U.S. DOT Classification</p>
<p>Air Transport:</p> <p>UN Number: 1263</p> <p>Proper Shipping Name: PAINT RELATED MATERIAL</p> <p>Hazard Class: 3</p> <p>Packing Group: II</p> <p>Marine Pollutant: Not applicable</p>	<p>ICAO/IATA Classification</p>	<p>Ocean Transport:</p> <p>UN Number: 1263</p> <p>Proper Shipping Name: PAINT RELATED MATERIAL</p> <p>Hazard Class: 3</p> <p>Packing Group: II</p> <p>Marine Pollutant: Not available</p>	<p>IMDG Classification</p>

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

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Additional information:

TDG

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

Special precautions for user:

Each shipper is responsible for identifying, naming, marking and labeling prior to offering for transport. Multi-modal shipping descriptions are provided for information purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all the risks deriving from the substances and on all actions in case of emergency situations.

Transport within the user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Proof of classification statement:

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Regulatory Rules:

Chemical / Ingredient Name	CAS Number	CERCLA/SARA Section 302	SARA (311, 312) Hazard Class	CERCLA/SARA Section 313
Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	Not Listed	Not Listed	Not Listed
Tertiary butyl acetate	540-88-5	Not Listed	Listed	Not Listed
Xylene, mixture of isomers	1330-20-7	Not Listed	Listed	Listed
Ethyl 3-ethoxypropionate	763-69-9	Not Listed	Not Listed	Not Listed
n-Butyl Acetate	123-86-4	Not Listed	Listed	Not Listed
Hexamethylene-di-isocyanate	822-06-0	Not Listed	Listed	Listed

International Inventories

TSCA Status: All components are listed or exempted

DSL/NDSL Status: All components are listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

California Proposition 65: WARNING: This product can expose you to chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION

Hazardous Material Information System (HMIS):

HMIS Health Rating: Health hazards 3 * Flammability 3 Physical hazards 1

National Fire Protection Association (NFPA):

NFPA: Health hazards 3 Flammability 3 Instability 1

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- * = Chronic Health Hazard
- 0 = Insignificant
- 1 = Slight
- 2 = Moderate
- 3 = High

Note: HMIS® Ratings involve data and interpretations that can vary from company to company. Although HMIS® ratings and the associated label are not required on SDSs, the preparer may choose to provide them. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS must be considered.

The customer is responsible for determining the Personal Protective Equipment (PPE) code for this material. For more information on HMIS® PPE codes, consult the HMIS® Implementation Manual.

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services
Ceiling	Maximum Limit Value
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
EPCRA	Emergency Planning and Community Right-to-Know Act (a.k.a. Title III, SARA)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HAP	Listed as a Clean Air Act Hazardous Air Pollutant
HMIS	Hazardous Material Information System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
NA	Not Available
NR	Not Regulated
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TPQ	Threshold Planning Quantity
TWA	Time-Weighted Average
UN	United Nations

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PRODUCT CODE(S): H-9801/H-9802/H-9803**Date of Previous Issue, H-9801:** None**Date of Previous Issue, H-9802:** None**Date of Previous Issue, H-9803:** None**Disclaimer****NOTICE TO READER**

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End of Safety Data Sheet