
Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name: Flexible DASH Dual Tank Adhesive Part A

Synonym: Low Pressure Polyurethane foam adhesive

Product Use: Two-part adhesive for roofing systems

Restrictions on Use: For industrial use only

Manufacturer Information

Versico Roofing Systems
1285 Ritner Highway
Carlisle, PA 17013
USA
Phone: +1-800-992-7663
Emergency Phone #: +1-800-424-9300 (CHEMTREC)

Section 2 - HAZARDS IDENTIFICATION

Classification of substance or mixture

Product definition: Mixture

Classification: Gases Under Pressure- Compressed Gas

Skin Irritation- Category 2

Skin Sensitization- Category 1B

Eye Irritation- Category 2B

Acute Toxicity Inhalation- Category 4

Respiratory Sensitizing- Category 1

Specific Target Organ Toxicity, Single Exposure -Category 3 (STOT SE 3)

Carcinogen- Category 2

Specific Target Organ Toxicity, Repeated Exposure- Category 2 (STOT RE 2)

Simple Asphyxiant

GHS Label Elements

Symbol(s)



Signal Word

Danger.

Hazard Statement:

Contains gas under pressure; may explode if heated.

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Causes skin irritation.
May cause an allergic skin reaction.
Causes eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
May displace oxygen and cause rapid suffocation.

Precautionary Statements (Prevention):

Keep Out of Reach of Children.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing vapor, mist or spray.
Wash hands and other skin areas exposed to material thoroughly after handling.
Use outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, protective clothing and eye protection.
In case of inadequate ventilation, wear respiratory protection.

Precautionary Statements (Response):

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.
IF INHALED: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.
Get medical attention if you feel unwell.
If eye irritation persists: Get medical attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):

Store in a well-ventilated place. Protect from light.
Store locked up.
Keep container tightly closed.

Precautionary Statements (Disposal):

Dispose of contents and container in accordance with applicable local, regional, national, and international regulations.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

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Special Information:

Contains isocyanates. Inhalation of isocyanate mists or vapors may cause respiratory irritation, breathlessness, chest discomfort and reduced pulmonary function. Overexposure well above the PEL may result in bronchitis, bronchial spasms and pulmonary edema. Long-term exposure to isocyanates has been reported to cause lung damage, including reduced lung function which may be permanent. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
101-68-8	Diphenylmethane-4,4'-diisocyanate (MDI)	25-50
811-97-2	1,1,1,2- Tetrafluoroethane	7-10
9016-87-9	Polymethylene polyphenyl isocyanate	25-50
26447-40-5	Methylenediphenyl diisocyanate	3-7
57636-09-6	Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)	1-3
17589-24-1	1,3-Diazetidone-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl) methyl] phenyl]-	0.3-1.0

This product contains 0.1%– 1.0 % nitrogen, used for cylinder pressurization only

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

Section 4 - FIRST AID MEASURES

General advice: Remove contaminated clothing.

EYES: Immediately flush eyes with large amounts of water for at least 15 minutes, holding the eyes open with fingers and occasionally lifting the upper and lower lids. Use lukewarm water if possible. If present and easy to do, remove contact lenses. If irritation persists, get medical attention.

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SKIN: Flush skin with large amounts of water while removing contaminated clothing. Gently wipe product from skin with a damp cloth and continue rinsing for 15 minutes. Wash clothing before reuse. Call a physician if irritation persists.

INGESTION: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: If product vapors causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen. If respiratory arrest occurs, start artificial respiration by a trained individual. Loosen tight fitting clothing such as a jacket or tie. Seek medical attention immediately. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening. Persons receiving significant exposure should be observed for 24-48 hours for signs of respiratory distress.

Most important symptoms and effects, both acute and delayed

Inhalation: Isocyanates vapors at concentrations above the concentration limits or guidelines can irritate the mucous membranes in the respiratory tract with symptoms of burning sensation, runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (difficulty breathing). Persons with a pre-existing, nonspecific bronchial hyperactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible; however, increased lung sensitivity may persist for a longer period of time. May be harmful if inhaled. Inhalation of the propellant may cause lightheadedness, headache and lethargy.

Eye: May cause eye irritation. Symptoms may include redness, swelling, stinging, and tearing. May cause temporary corneal injury. Product vapor may cause eye irritation with symptoms of burning and tearing.

Skin: May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause an allergic reaction. Can cause sensitization. Persons previously sensitized can experience allergic skin reactions. May be harmful if absorbed through the skin.

Ingestion: May be harmful if swallowed. May cause gastrointestinal irritation: stomach distress, nausea, or vomiting.

Chronic: Pre-existing disorders of the skin and respiratory system may be aggravated by exposure to this product. Prolonged vapor contact may cause conjunctivitis. Prolonged or repeated skin contact can cause redness, swelling, rash and possible skin sensitization. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

As a result of previous repeated exposures or a single large dose, certain individuals may develop sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to these materials at levels well below the exposure limits or guidelines. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack

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could be delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Sensitization can be permanent.

Note to physician

If case of an accident or if you feel unwell, seek medical advice immediately (show label or SDS if possible).

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable methods of extinction: Use dry chemical, carbon dioxide, alcohol resistant foams and water spray.

Special hazards arising from the substance or mixture

Cans, cylinders, or refillable tanks may explode due to the buildup of pressure when exposed to extreme heat. During a fire, isocyanate vapors or other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed.

Advice for Fire Fighters

Keep upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Use water spray to keep fire-exposed containers cool.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition. Ventilate the area.

Environmental precautions

Avoid dispersal of spilled material or run-off and prevent contact with soil and entry into drains, sewers or waterways.

Methods and material for containment and cleaning up

Cover drains and contain spill. Cover spilled material with a large quantity of inert absorbent. Collect material and place into an approved, open-head metal container. Decontaminate the spill and waste area with a neutralization solution. Wait 15 minutes. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Allow container to vent for 72 hours to let carbon dioxide escape. Dispose of waste via a licensed waste disposal contractor in accordance with all applicable federal, state, provincial and local regulations. Ensure adequate ventilation.

Additional spill procedures- neutralization solutions (decontamination):

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Use ten parts of solution for each part of the spill.

(1) An aqueous solution containing 3-8% ammonium hydroxide or concentrated ammonia and 0.2-0.5% liquid detergent

(2) An aqueous solution containing 5-10% sodium bicarbonate and 0.2-0.5% liquid detergent

For indications about waste treatment, see Section 13

Section 7 - HANDLING AND STORAGE

Precautions for safe handling

Do not breathe vapors or mist during application. Use adequate ventilation to keep airborne isocyanate levels below exposure limits. Wear respiratory protection when spraying this material. Warning symptoms (irritation of the eyes, nose, or throat, or odor) are not adequate to prevent overexposure from inhalation. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed. Avoid contact with skin or eyes. Wear appropriate personal protective equipment during use (see Section 8). Wash thoroughly after handling product. Do not puncture or incinerate cylinders. Containers are under pressure. Keep containers closed when not in use.

Protection against fire and explosion:

Contents under pressure. Exposure to high temperatures can cause containers to rupture or explode.

Storage No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities

Store in a dry, well-ventilated area and away from incompatible materials (see Section 10.5). Storage temperature is 70-90°F (21-32°C). Products stored below 70°F (21°C) or above 90°F (32°C) must be given adequate time to warm up/cool down. Do not expose the tanks/kits to open flame or temperatures above 122°F (50°C); storage at elevated temperatures can cause the container to rupture. Excessive heat can cause premature aging of components resulting in a shorter shelf life. Protect unused product from freezing. Storage below 60°F (16°C) may affect foam quality if chemicals are not warmed to room temperature before using. Protect containers from physical abuse. Always store the containers in the upright position. **KEEP OUT OF REACH OF CHILDREN.**

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8
OSHA PEL	0.2 mg/m ³ ; 0.02 ppm CEIL
ACGIH TLV	0.051 mg/m ³ ; 0.005 ppm (8 hours TWA)

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NIOSH	NIOSH- 0.2 mg/m ³ ; 0.02 ppm CEIL 0.051 mg/m ³ ; 0.005 ppm TWA
1,1,1,2 Tetrafluoroethane	811-97-2
WEEL	1,000 ppm

Engineering Controls: Use local and general exhaust ventilation to control levels of exposure.

Personal protective equipment

Respiratory protection:

Atmospheric levels should be maintained below the exposure guidelines. Use products only in a well-ventilated area. Engineering and administrative (work practices) controls should be implemented to protect the workers. If atmospheric levels are expected to exceed the exposure levels, use a NIOSH approved air purifying respirator equipped with an organic vapor cartridge and a particulate filter. If atmospheric levels exceed 10 times the TLV or PEL level for which an air-purifying respirator is effective, use a powered air purifying respirator (PAPR). The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The odor and irritancy of this material is inadequate to warn of excessive exposure.

Hand protection:

Use chemically resistant gloves (i.e. Nitrile gloves). Nitrile/butadiene rubber, butyl rubber, polyethylene, PVC (vinyl), or neoprene gloves are also effective. Glove selection should take into account potential body reactions to certain materials and manufacturer's instructions for use. Break through time of selected gloves must be greater than the intended use period.

Eye protection:

Wear protective goggles or safety glasses with side shields.

Other Protective Equipment:

Use clothing that protects against dermal exposure. Appropriate protective clothing varies depending on the potential for exposure. To ensure proper skin protection, wear PPE in such a manner that no skin is exposed.

Hygiene Measures:

An eye wash station or portable eye wash station should be in the area. Wash hands thoroughly after use, before eating, drinking or using the lavatory. Employees/Users should be educated and trained in the safe use and handling of this product.

Medical Surveillance:

All employees/end-users who work with isocyanates should undergo a medical evaluation. A history of eczema or respiratory allergies are possible reasons for medical exclusion from working with isocyanates. Users with a prior history of isocyanate sensitization should be excluded from further work with isocyanates. Once a user is diagnosed with being sensitized to isocyanates, no further exposure should be permitted.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Amber to dark brown liquid. Forms an off-white to yellowish froth when released from the container		
Odor	Slightly musty	Odor threshold	No data available
Initial Boiling Point and Boiling Range /Boiling Point (@ 5mmHg)	MDI boils at 406°F (208°C)	Flammability Limit	Not applicable
Melting/Freezing Point (@ 1 ATM)	No data available	Vapor Pressure in container(20°C)	Contents under pressure have a vapor pressure >50 psi (>345kPa)
Vapor Pressure of Liquid	Liquid phase vapor pressure: <1 mm Hg @ 40°C	Partition coefficient: n-octanol/water	No data available
Autoignition	No data available	Flash Point	MDI 390°F (199°C)
Solubility	Insoluble; reacts slowly with water during cure, liberating traces of CO ₂	Viscosity	No data available
Vapor Density (air=1)	No data available	Decomposition Temperature	No data available
Oxidizing Properties	Not available	pH	No data available
Relative Density/Specific Gravity	~ 1.2 @ 25°C (Water = 1)	Evaporation rate:	No data available
Lower Flammability/Explosive Limit	Not available	Upper Flammability/Explosive Limit	Not available

Section 10 - STABILITY AND REACTIVITY

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability

Stable under normal conditions of use and recommended storage conditions. See Section 7 for storage recommendations.

Possibility of Hazardous Reactions

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Exposure to elevated temperatures can cause containers to rupture or explode. Avoid moisture, material reacts slowly with water releasing carbon dioxide. Contents are under pressure.

Conditions to Avoid

Temperatures below 70°F (21°C) or temperatures above 90°F (32°C). Avoid heat and flames.

Incompatible Materials

Alcohols, strong bases, amines, metal compounds, ammonia, and strong oxidizers. Avoid contamination with water.

Hazardous decomposition products: May include, and are not limited to: oxides of carbon, oxides of nitrogen, hydrogen fluoride and traces of hydrogen cyanide.

Section 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity

Expected to have low acute oral toxicity. LD50, rat: >5000 mg/kg

Acute inhalation toxicity

LC50, rat: 490 mg/m³, 4h

Acute dermal toxicity

Expected to have a low acute dermal toxicity. LD50, rabbit: >5000 mg/kg

Skin irritation

Causes skin irritation.

Eye irritation

Causes moderate to serious eye irritation.

Sensitization

Assessment of sensitization: Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract. As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapour-only exposure. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

Genotoxicity

Genetic toxicity data for MDI is inconclusive. Some in-vitro studies yield positive results, while other test data were negative.

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Mutagenicity

Test data using laboratory animals was predominately negative.

Specific organ toxicity- single exposure

May cause respiratory irritation.

Specific organ toxicity- repeated exposure

May cause damage to the lungs, central nervous system and skin.

Aspiration hazard

No data available.

Further information

MDI and PMDI: IARC Group 3 carcinogen- Not classifiable as to its carcinogenicity to humans. Not listed as a carcinogen by ACGIH, OSHA or NTP. MDI/PMDI did not cause birth defects in laboratory animals; fetal effects occurred only at high doses which were toxic to the mother. Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/PMDI (6mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicological data reported are for a comparable product. The Ecotoxicity is that of the hydrolyzed product generally under conditions of maximizing production of soluble species. This material is not classified as dangerous to aquatic organisms (LD50/EC50 greater than 100 mg/l in the most sensitive species).

Acute and prolonged toxicity to fish: LC50- Brachydanio rerio (Zebra fish), 96h >1000 mg/l

Toxicity to aquatic invertebrates: EC50- Daphnia magna (Water flea) 48h >1000 mg/l

Toxicity to aquatic plants: NOEC- Desmodesmus subspicatus (Green algae) static, 72 h >1640 mg/l, growth rate inhibition

Toxicity to aquatic microbes: OECD 209 Test- Activated Sludge 3 h >100 mg/l, respiration inhibition

Toxicity to soil dwelling organisms: EC50- Eisenia fetida (earthworms) 14 d >1000 mg/kg

Persistence and degradability

Product is not readily biodegradable. In aquatic and terrestrial environments, this material reacts with water, forming predominantly insoluble and stable polyureas. In the atmospheric environment, this material is expected to have a short tropospheric half-life, based on data from similar diisocyanates.

Bioaccumulation potential

Bioaccumulation potential is low.

Mobility

Expected to have low mobility based on product's reactivity with water, which forms predominately insoluble polyureas.

Results of PBT and vPvB assessment

No data available.

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Other adverse effects

Additional ecological information: Do not allow material to run into surface waters, wastewater, or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 - DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Always wear proper protective equipment as you would while spraying the two-component foam in a well-ventilated area.

Procedure for handling empty or partially used disposable cylinders:

1. DO NOT INCINERATE CYLINDERS
2. Dispense the foam into a waste container like a cardboard box or plastic bag. Depressurize the used cylinders using the dispensing unit with a new nozzle attached. Spray the foam until one of the components/cylinders no longer sprays chemical.
3. Remove the nozzle and then continue to depressurize by dispensing the chemicals into a waste container (a box lined with a plastic bag) that has adequate industrial liquid absorbing medium in the bottom. Dispense the residual chemicals until the pressure is down to a minimum or there are just large bubbles in the hose.
4. Close the cylinder valves completely, and then operate the dispensing unit again to empty and depressurize the hoses. Use a 9/16" wrench and remove the hoses from the cylinders. Use caution in case there is some residual chemical and/or pressure in the hoses.
5. Invert the cylinder and point away from face. Slowly open the cylinder over the waste container to catch any residual spray.
6. Return the cylinder to an upright position. Shake the container; there should not be any sloshing of liquid. Make sure to leave valves OPEN-do not close.
7. DISPOSE OF EMPTY CYLINDERS ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. CHECK WITH YOUR LOCAL WASTE DISPOSAL SERVICE FOR GUIDANCE.

NOTE: After dispensing if one cylinder has chemical left in it; treat as hazardous material.

Section 14 - TRANSPORT INFORMATION

Note: Transportation information is for reference only. Customer is urged to consult 49 CFR 100-177, information manual for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

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US DOT Information:

UN3500 Chemicals Under Pressure n.o.s. (Fluorinated hydrocarbon, nitrogen) 2.2 (Non-Flammable Gas Label) **Sea transport IMDG**

UN3500 Chemicals Under Pressure n.o.s. (Fluorinated hydrocarbon, nitrogen) 2.2 (Non-flammable Gas Label)

Air transportation IATA/ICAO

UN3500 Chemicals Under Pressure n.o.s. (Fluorinated hydrocarbon, nitrogen) 2.2 (Non-flammable Gas Label)

Packing Instruction (Cargo & Passenger) 200

Section 15 - REGULATORY INFORMATION

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

U.S. Federal Regulations:

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is not subject to TSCA 12(b) Export Notification. Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard, Chronic Health Hazard, Sudden Release of Pressure Hazard

SARA 313 Information: MDI and PMDI are subject to reporting levels established by Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: No components of the product exceed the threshold (de minimis) reporting levels established by these sections of the Title III of SARA.

SARA 302/304 Emergency Planning & Notification: No components of the product exceed the threshold (de minimis) report levels established by these sections of the Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains the following CERCLA reportable substances: 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8), RQ-2,268 kg (5,000 lbs).

Clean Air Act (CAA) - 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed as a Hazardous Air Pollutant (HAP) designated in CAA Section 112 (b). This product does not contain any Class 1 or Class 2 Ozone depleters.

Clean Water Act (CWA) - 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed as a Hazardous Substance under the CWA. None of the chemicals in these products are listed as Priority Pollutants under the CWA. None of the chemicals listed in these products are listed as Toxic Pollutants under the CWA.

U.S. State Regulations:

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains trace amount of substances known to the State of California to cause cancer or other reproductive harm.

Other U.S. State Inventories:



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4, 4' - Diphenylmethane diisocyanate (CAS #101-68-8) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/air Pollutants lists: CA, DE, ID, IL, ME, MA, MN, NJ, PA, WA, WI

Polymeric MDI (CAS #9016-87-9) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, NJ, MN

1,1,1,2- Tetrafluoroethane (CAS #811-97-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: ME, WI

Chemical Inventory Lists:

United States: Toxic Substance Control Act (TSCA)- Yes

Chemical safety assessment: For this product a chemical safety assessment was not carried out.

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 2* Fire: 1 Physical Hazard: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 2 Fire: 1 Reactivity: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision Date: May 17, 2019

Revision Note: General Update

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource



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Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.