

## SAFETY DATA SHEET

### SECTION 1 : IDENTIFICATION

**Product Name:** TurboStick  
**Product Code:** 81181  
**SDS Manufacturer Number:** 81181  
**Synonyms:** None.  
**Product Use/Restriction:** Not applicable.  
**Manufacturer Name:** Sto Corp.  
**Address:** 6175 Riverside Drive, SW  
 Atlanta, Georgia 30331  
**General Phone Number:** (404) 346-3666  
**Emergency Phone Number:** (800) 424-9300  
**SDS Creation Date:** May 06, 2016  
**SDS Revision Date:** May 06, 2016

HMIS	
Health Hazard	3*
Fire Hazard	0
Reactivity	1
Personal Protection	X

\* Chronic Health Effects

### SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



**Signal Word:** DANGER.

**GHS Class:** Acute Inhalation Toxicity. Category 3.  
 Respiratory sensitisation. category 1.  
 Specific Target Organ Toxicity -STOT Repeated exposure RE. Category 2 (Inhalation, respiratory system).  
 Eye Irritation. Category 2.  
 Skin Irritation. Category 2.  
 Skin Sensitization. category 1.  
 Specific Target Organ Toxicity - STOT, Single Exposure SE. Category 3.  
 Compressed gases under pressure.

**Hazard Statements:** Toxic if inhaled.  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 May cause damage to organs through prolonged or repeated exposure.  
 Causes serious eye irritation.  
 Causes skin irritation.  
 May cause an allergic skin reaction.  
 May cause respiratory irritation.  
 Contains gas under pressure; may explode if heated.

**Precautionary Statements:** Do not breathe dust/fume/gas/mist/vapours/spray.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Wash hands thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 In case of inadequate ventilation wear respiratory protection.  
 IF ON SKIN: Wash with plenty of water.  
 IF INHALED: 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.  
 Call a POISON CENTER or doctor/physician.  
 Call a POISON CENTER or doctor/physician if you feel unwell.  
 Get medical advice/attention if you feel unwell.  
 Specific treatment (see ... on this label).  
 If skin irritation occurs: Get medical advice/attention.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 Take off contaminated clothing and wash it before reuse.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Protect from sunlight. Store in a well-ventilated place.  
 Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

**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.

**Chronic Health Effects:** Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.

<b>Signs/Symptoms:</b>	Overexposure can cause headaches, dizziness, nausea, and vomiting.
<b>Target Organs:</b>	Eyes. Skin. Respiratory system. Digestive system.
<b>Aggravation of Pre-Existing Conditions:</b>	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product. Isocyanate exposure levels must be monitored. Medical supervision of all employees who handle or come in contact with isocyanates is recommended (i.e. FEV <sub>1</sub> , FVC). This should include pre-employment and periodic medical examinations. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases, recurrent skin eczema or sensitization should be excluded from working with this product. Once sensitized no further exposure can be permitted.

### SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	30 - 60 by weight	
1,1,1,2-Tetrafluoroethane	811-97-2	10 - 30 by weight	212-377-0
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	10 - 30 by weight	
4,4'-Diphenylmethane diisocyanate	101-68-8	7 - 13 by weight	202-966-0
N,N'-Dimorpholinodiethylether	6425-39-4	1 - 5 by weight	229-194-7

### SECTION 4 : FIRST AID MEASURES

<b>Eye Contact:</b>	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.
<b>Skin Contact:</b>	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. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
<b>Ingestion:</b>	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
<b>Note to Physicians:</b>	Asthmatic type symptoms may develop, which may be immediate or delayed for several hours. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta <sub>2</sub> agonist and oral or parenteral corticosteroids. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
<b>Other First Aid:</b>	Additional important symptoms and effects are described in Section 2 and 11.

### SECTION 5 : FIRE FIGHTING MEASURES

<b>Flash Point:</b>	Not determined.
<b>Auto Ignition Temperature:</b>	Not determined.
<b>Lower Flammable/Explosive Limit:</b>	Not determined.
<b>Upper Flammable/Explosive Limit:</b>	Not determined.
<b>Fire Fighting Instructions:</b>	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.
<b>Extinguishing Media:</b>	Use carbon dioxide (CO <sub>2</sub> ) or dry chemical when fighting fires involving this material.
<b>Unsuitable Media:</b>	Water may cause frothing.
<b>Protective Equipment:</b>	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>Unusual Fire Hazards:</b>	Do not reseal containers if contaminated with water, resin will react with water to release carbon dioxide. As a result of the water contamination, pressure will build up in the sealed container causing it to rupture.
<b>Hazardous Combustion Byproducts:</b>	Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen fluoride. Hydrogen halides. Carbon dioxide.

### SECTION 6 : ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
<b>Environmental Precautions:</b>	Avoid runoff into storm sewers, ditches, and waterways.
<b>Methods for containment:</b>	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.
<b>Methods for cleanup:</b>	Neutralize residue with appropriate neutralizer. Suitable decontaminant/neutralizing solution include: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Do not attempt to neutralize large quantities of material unless measures to control reactivity and heat generation have been taken. After removal, flush spill area with soap and water to remove trace residue. Avoid prolonged or repeated contact with skin. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in Section 8. A blanket of protein foam may be placed over spill for temporary control of isocyanate vapor.

## SECTION 7 : HANDLING and STORAGE

<b>Handling:</b>	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Keep container tightly closed. Contents under pressure. Do not puncture or incinerate container. Do not enter confined spaces unless adequately ventilated. See Section 8, Personal Protection.
<b>Storage:</b>	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Do not reseal container if moisture or water contamination is suspected. Water contaminated material in a sealed container may rupture due to pressure buildup. Keep container tightly closed. Contents under pressure. Do not puncture or incinerate container. Do not enter confined spaces unless adequately ventilated. Store at 25 °C (77 °F). Avoid temperatures above 50°C (122°F) Shelf life 12 months
<b>Special Handling Procedures:</b>	Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.
<b>Hygiene Practices:</b>	Wash thoroughly after handling.

## SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

<b>Engineering Controls:</b>	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.
<b>Eye/Face Protection:</b>	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.
<b>Skin Protection Description:</b>	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
<b>Hand Protection Description:</b>	Recommended glove barrier materials include: Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Viton Acceptable glove barrier materials include: Butyl rubber. Nitrile/butadiene rubber ("nitrile" or "NBR").
<b>Respiratory Protection:</b>	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.
<b>Other Protective:</b>	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

### EXPOSURE GUIDELINES

#### 4,4'-Diphenylmethane diisocyanate :

<b>Guideline ACGIH:</b>	TLV-TWA: 0.005 ppm
<b>Guideline OSHA:</b>	PEL-Ceiling/Peak: 0.02 ppm
<b>Notes :</b>	Only established PEL and TLV values for the ingredients are listed.

## SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

<b>Physical State Appearance:</b>	Foam.
<b>Color:</b>	Natural
<b>Odor:</b>	Very slight odor
<b>Odor Threshold:</b>	No test data available
<b>Boiling Point:</b>	No test data available
<b>Melting Point:</b>	No test data available
<b>Specific Gravity:</b>	1.155 at 25 °C (77 °F) / 25 °C Calculated
<b>Solubility:</b>	Not applicable.
<b>Vapor Density:</b>	No test data available
<b>Vapor Pressure:</b>	2,100 kPa at 55 °C (131 °F) Estimated.
<b>Evaporation Rate:</b>	No test data available
<b>pH:</b>	Not applicable.

Viscosity:	No test data available
Coefficient of Water/Oil Distribution:	No test data available
Flash Point:	Not determined.
Auto Ignition Temperature:	Not determined.
Explosive Properties:	Not explosive.
Oxidizing Properties:	No.
Note:	The physical data presented above are typical values and should not be construed as a specification.

## SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Reactivity:	Avoid temperatures above 50°C (122°F) Elevated temperatures can cause container to vent and/or rupture.
Hazardous Polymerization:	Elevated temperatures can cause hazardous polymerization
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Avoid temperatures above 50°C (122°F) Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.
Incompatible Materials:	Alcohols, amines, strong bases (alkali, ammonia), acids, metal compounds, moisture or water. Resin reacts with water to give off carbon dioxide. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.
Special Decomposition Products:	Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

## SECTION 11 : TOXICOLOGICAL INFORMATION

Carcinogenicity:	Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m <sup>3</sup> ) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.
Mutagenicity:	In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative. For the component(s) tested: 1,1,1,2-tetrafluoroethane Animal genetic toxicity studies were negative.
Teratogenicity:	In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.
Target Organ Repeated Exposures:	Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.
<b><u>1,1,1,2-Tetrafluoroethane :</u></b>	
Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 1500 gm/m <sup>3</sup> /4H [Details of toxic effects not reported other than lethal dose value] (RTECS)
<b><u>Diphenylmethane Diisocyanate, isomers and homologues :</u></b>	
Eye:	Administration into the eye - Rabbit Standard Draize test: 100 mg [Mild] (RTECS)
Skin:	Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >9400 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 490 mg/m <sup>3</sup> /4H [Sense Organs and Special Senses (Eye) - effect, not otherwise specified Lungs, Thorax, or Respiration - Respiratory depression Blood - Hemorrhage] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 49 gm/kg [Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Nutritional and Gross Metabolic - Body temperature decrease] (RTECS)
<b><u>4,4'-Diphenylmethane diisocyanate :</u></b>	
Eye:	Administration into the eye - Rabbit Standard Draize test: 100 mg [Moderate] (RTECS)
Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 178 mg/m <sup>3</sup> [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 9200 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Nutritional and Gross Metabolic - Body temperature decrease] (RTECS)

## SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). Based on information for a similar material.
Biodegradation:	Material is expected to biodegrade very slowly in the environment
Mobility In Environmental Media:	In the atmospheric environment, material is expected to have a short tropospheric half-life, based on

calculations and by analogy with related diisocyanates.

**Effect of Material On Aquatic Life:** In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable.

## 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:** Not determined.

## SECTION 14 : TRANSPORT INFORMATION

**DOT Shipping Name:** Chemical under pressure, n.o.s (1,1,1,2-Tetrafluoroethane)

**DOT UN Number:** UN3500

**DOT Hazard Class:** 2.2

**IATA Shipping Name:** Chemical under pressure, n.o.s (1,1,1,2-Tetrafluoroethane)

**IATA UN Number:** UN3500

**IATA Hazard Class:** 2.2

**IMDG UN Number :** UN3500

**IMDG Shipping Name :** Chemical under pressure, n.o.s (1,1,1,2-Tetrafluoroethane)

**IMDG Hazard Class :** 2.2

## SECTION 15 : REGULATORY INFORMATION

### Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer :

**TSCA Inventory Status:** Listed

**Canada DSL:** Listed

### 1,1,1,2-Tetrafluoroethane :

**TSCA Inventory Status:** Listed

**Canada DSL:** Listed

**EC Number:** 212-377-0

### Diphenylmethane Diisocyanate, isomers and homologues :

**TSCA Inventory Status:** Listed

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

**California PROP 65:** IARC: Group 3: Unclassifiable as to carcinogenicity to humans.

**Canada DSL:** Listed

### 4,4'-Diphenylmethane diisocyanate :

**TSCA Inventory Status:** Listed

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

**California PROP 65:** IARC: Group 3: Unclassifiable as to carcinogenicity to humans.

**Canada DSL:** Listed

**EC Number:** 202-966-0

### N,N'-Dimorpholinodiethylether :

**TSCA Inventory Status:** Listed

**Canada DSL:** Listed

**EC Number:** 229-194-7

**Canadian Regulations.** WHMIS Hazard Class(es): D2A; D2B  
All components of this product are on the Canadian Domestic Substances List.

## SECTION 16 : ADDITIONAL INFORMATION

### HMIS Ratings:

**HMIS Health Hazard:** 3\*

**HMIS Fire Hazard:** 0

**HMIS Reactivity:** 1

**HMIS Personal Protection:** X

**SDS Creation Date:**

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SDS Revision Date:

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SDS Author:

Actio Corporation

Disclaimer:

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