Material Safety Data Sheet

Vytaflex® Series **MSDS No. 618**

Date of Preparation: February 11, 2014 Revision: 0009

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Vytaflex® 10, 20, 30, 40, 50 and 60 Part A
General Use: Polyurethane Elastomer
Manufacturer: Smooth-On Inc., 2000 St. John St., Easton PA 18042
Phone (610) 252-5800, FAX (610) 252-6200
Emergency Contact: Chem-Tel
Domestic 800-255-3924
International 813-248-0585

Section 2 - Hazards Identification

Hazard Designation:

Europe

Xn = Harmful

Canada

HMIS	
H	2
F	1
R	1

Information pertaining to particular dangers
R20: Harmful by inhalation.
R40: Limited evidence of a carcinogenic effect.
R42: May cause sensitization by inhalation.

Classified according to Articles 6 & 7of Directive 1999/45/EC

Section 3 - Composition / Information on Ingredients

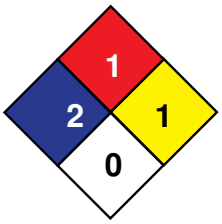
Component	ACGIH TWA	OSHA PEL	Hazard Designation	Weight Percent (%)
Diisononylphthalate CAS Number: 68515-48-0 EINECS Number: 271-090-9	None Established	None Established	None	**<20**
Toluene Diisocyanate CAS Number: 26471-62-5 EINECS Number: 247-722-4	0.036 mg/m^3	0.005 ppm	 Xn	**<1**

Section 4 - First Aid Measures

Inhalation: Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.
Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.
Skin Contact: In case of skin contact, wash thoroughly with soap and water; remove contaminated clothing and launder before reuse; seek medical attention if rash develops.
Ingestion: Do not induce vomiting unless instructed by a physician. Contact physician immediately
After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

NFPA



Flash Point: >270 °F (132°C)
Flash Point Method: TOC
LEL: Not Established
UEL: Not Established
Flammability Classification: Non-Flammable
Extinguishing Media: Water Fog, Dry Chemical, Carbon Dioxide Foam
Unusual Fire or Explosion Hazards: Hazardous decomposition products may be formed. Avoid water contamination in closed containers or confined areas as exothermic heat and carbon dioxide can evolve.
Fire-Fighting Instructions: Fire fighters should wear self contained breathing apparatus. Do not release runoff from fire control methods to sewers or waterways.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: Only properly protected personnel should remain in the spill area; dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely**.**

Section 7 - Handling and Storage

Handling Precautions: Minimize breathing of vapors and avoid prolonged or repeated contact with skin. Wear proper protective equipment. If ventilation is not sufficient, wear proper respiratory equipment. Avoid moisture contamination. Reseal partial containers. Use good general housekeeping procedures.
Storage Requirements: Store in cool dry, well-ventilated area.

Section 8 - Exposure Controls / Personal Protection

Respiratory Protection: Follow OSHA respirator regulations 29 CFR 1910.134 and European Standards EN 141, 143 and 371; wear an MSHA/NIOSH or European Standards EN 141, 143 and 371 approved respirators. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, and aprons to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance : Clear yellow viscous liquid
Odor : Sharp pungent odor
Vapor Pressure: None (Polymeric Resin)
Vapor Density (Air=1): >1
Specific Gravity (H_2O=1, at 4 °C): 1.04
Water Solubility: Negligible**:**
Boiling Point: None (Polymeric Resin)
% Volatile: Nil
Freezing/Melting Point: None (Polymeric Resin)
Viscosity: 50 poise

Section 10 - Stability and Reactivity

Stability: These products are stable at room temperature in closed containers under normal storage and handling conditions.
Polymerization: Hazardous polymerization can occur.
Chemical Incompatibilities: Strong bases, water, amines, alcohols.
Conditions to Avoid: Avoid contamination with water and other materials that react with Isocyanates.
Hazardous Decomposition Products: TDI vapors, hydrogen cyanide gas, oxides of nitrogen, carbon monoxide and carbon dioxide

Section 11- Toxicological Information

Hazardous Component	LD50 Oral	LC50 Inhalation
Toluene Diisocyanate **(TDI)**	Rat: 5800 mg/kg	Rat: 140 ppm/4hr. Mouse: 10 ppm/4hr.

Section 12 - Ecological Information

None Established

Section 13 - Disposal Considerations

Disposal: These materials must be disposed of in accordance with local regulations.

Section 14 - Transport Information

DOT	IATA	IMDG
Not Regulated	**Not Regulated**	**Not Regulated**

Section 15 - Regulatory Information

United States EPA Regulations:

CERCLA Hazardous Substance (40 CFR 302.4) listed specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

Chemical Name	RQ	% Reportable Component
Toluene Diisocyanate–	100 lbs.	<1.0

SARA EHS (Extremely Hazardous Substance) (40 CFR 355):

Chemical Name	CAS #	% by Weight
Toluene Diisocyanate	26471-62-5	<1.0

Section 15 - Regulatory Information (Continued)

These products contain the following chemicals that are subject to release reporting requirements under **section 313 of SARA Title III.**

Chemical Name	CAS #	% by Weight
Toluene Diisocyanate	26471-62-5	<1.0

TSCA Inventory Status (40 CFR710): All components of this formulation are listed in the TSCA Inventory.

California Proposition 65 Warning: This product contains a chemical that has been identified by the State of California to cause cancer.

Canadian Regulations;

WHMIS Identification: **D2A, D2B**
CDSL/NDL (Canadian Domestic Substance List/Non Domestic Substance List): **Listed on CDSL**

Labeling according to EEC Directive

Risk Phrases	Symbol(s) Required for EU Label	Safety Phrases
R20: Harmful by inhalation. **R40**: Limited evidence of a carcinogenic effect. **R42:** May cause sensitization by inhalation	 **(Xn = Harmful)**	**S1/2:** Keep locked up and out of reach of children **S23**: Do not breath vapors **S36/37:** Wear suitable protective equipment. **S45:** In case of an accident or if you feel sick , seek medical attention **S61**: Avoid release to the environment. Refer to special instructions/safety data sheets**.**

16 - Other Information

Disclaimer: The information contained in this MSDS is considered accurate as of the version date. However, no warranty is expressed or implied regarding the accuracy of the data. Since the use of this product is not within the control of Smooth-On Inc., it is the user's obligation to determine the suitability of the product for its intended application and assumes all risk and liability for its safe use.

This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA)Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS), and European Union Directive 1907/2006/EEC (REACH). Hazard symbols and risk phrases are based on maximum listed concentration of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS) or the European Union (EU/EEC) directive 1907/2006/EEC and are considered trade secrets under US Federal Law (29CFR and 40CFR), Canadian Law (Health Canada Legislation), and European Union Directives.

Material Safety Data Sheet

Vytaflex® Series **MSDS No. 618**

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Product/Chemical Name: Vytaflex® 10, 20, 30, 40, 50 and 60 Part B
General Use: Polyurethane Elastomer
Manufacturer: Smooth-On Inc., 2000 St. John St., Easton PA 18042
Phone (610) 252-5800, FAX (610) 252-6200
Emergency Contact: Chem-Tel
Domestic 800-255-3924
International 813-248-0585

Section 2- Hazards Identification

Hazard Designation:

Europe

Canada

HMIS	
H	2
F	1
R	1

Xn = Harmful N = Dangerous for the environment

Information pertaining to particular dangers
R21/22: Harmful in contact with skin and if swallowed.
R36: Irritating to eyes.
R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50/53: Very toxic to aquatic organisms may cause long term adverse effects in the aquatic environment.

Section 3 - Composition / Information on Ingredients

Component	ACGIH TWA	OSHA PEL	Hazard Designation	Weight Percent (%)
diisononyl phthalate CAS Number: 68515-48-0 EINECS Number: 271-090-9	None Established	None Established	None	20-50
Diethyltoluenediamine CAS Number: 68479-98-1 EINECS Number: 270-877-4	None Established	None Established	 Xn  N	1-5
Di(methylthio)toluene diamine CAS Number: 106264-79-3 EINECS Number: None **(Vytaflex 50 & 60 Only)**	None Established	None Established	Not Classified	5-10

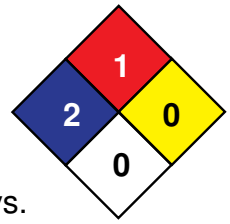
Section 4 - First Aid Measures

Inhalation: Remove source(s) of contamination and move victim to fresh air.
Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.
Skin Contact: In case of skin contact, wash thoroughly with soap and water; remove contaminated clothing and launder before reuse.
Ingestion: Do not induce vomiting unless instructed by a physician. Contact physician immediately

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

NFPA



Flash Point: >270 °F (132°C)
Flash Point Method: PMCC
Flammability Classification: Non-Flammable
Extinguishing Media: Water Fog, Dry Chemical, and Carbon Dioxide Foam
Unusual Fire or Explosion Hazards: None
Fire-Fighting Instructions: Fire fighters should wear self-contained breathing apparatus. Do not release runoff from fire control methods to sewers or waterways.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: Dike and contain spill; absorb or scrape up excess into suitable container for disposal. Stop or reduce discharge if it can be done safely**.**
Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Minimize breathing of vapors and avoid prolonged or repeated contact with skin. Wear proper protective equipment. If ventilation is not sufficient, wear proper respiratory equipment. Use good general housekeeping procedures.
Storage Requirements: Store in cool dry, well-ventilated area.

Section 8 - Exposure Controls / Personal Protection

Respiratory Protection: Follow OSHA respirator regulations 29 CFR 1910.134 and European Standards EN 141, 143 and 371; wear an MSHA/NIOSH or European Standards EN 141, 143 and 371 approved respirators. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, and aprons to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance :
Off White-Light Yellow
Odor : Sharp pungent odor
Vapor Pressure: None (Polymeric Resin)
Vapor Density (Air=1): >1
Specific Gravity (H_2O=1, at 4 °C): 1.01

Water Solubility: Negligible**:**
Boiling Point: None (Polymeric Resin)
% Volatile: Nil
Freezing/Melting Point: None Determined
Viscosity: 3 poise
Evaporation Rate: None (Polymeric Resin)

Section 10 - Stability and Reactivity

Stability: These products are stable at room temperature in closed containers under normal storage and handling conditions.
Polymerization: Hazardous polymerization can not occur.
Chemical Incompatibilities: Strong acids and oxidizers.
Conditions to Avoid: Avoid contamination with water and other materials that react with amines.
Thermal Decomposition Products: Oxides of nitrogen, carbon monoxide and carbon dioxide

Section 11- Toxicological Information

None Established

Section 12 - Ecological Information

None Established

Section 13 - Disposal Considerations

Disposal: These materials must be disposed of in accordance with applicable local regulations.

Section 14 - Transport Information

DOT	IATA	IMDG
Not Regulated	Not Regulated	Not Regulated

Section 15 - Regulatory Information

United States EPA Regulations:

US TSCA Inventory Status (40 CFR 710): All components of this product are listed on the TSCA inventory.

California Proposition 65 Warning: This product contains a chemical that has been identified by the State of California to cause cancer.

Section 15 - Regulatory Information (Continued)

Canadian Regulations;

WHMIS Identification: **D2A, D2B**
CDSL/NDL (Canadian Domestic Substance List/Non Domestic Substance List): **Listed on CDSL**

Labeling according to EEC Directive

Risk Phrases	Symbol(s) Required for EU Label	Safety Phrases
R21/22: Harmful in contact with skin and if swallowed. **R36**: Irritating to eyes. **R48/22:** Harmful: danger of serious damage to health by prolonged exposure if swallowed. **R50/53**: Very toxic to aquatic organisms may cause long term adverse effects in the aquatic environment.	 **Xn = Harmful**  **N = Dangerous for the environment**	**S2:** Keep out of reach of children. **S26:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. **S28:** After contact with skin, wash immediately with plenty of soap-suds. **S36/37/39:** Wear suitable protective clothing, gloves and eye and face protection. **S60**: This material and container must be disposed as hazardous waste. **S61:** Avoid release to the environment. (See MSDS).

16 - Other Information

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