



Carlisle Polyurethane Systems Safety Data Sheet

1. Identification of Substance:

Product Name: Tru-Motion H3613

Supplier Identification:

Carlisle Polyurethane Systems

Telephone:

(314) 872-8700

Address:

2500 Adie Road
Maryland Heights, MO 63043

24-Hr. Emergency Phone Number:

CHEMTREC (800) 424-9300
INTERNATIONAL: +1-(703) 527-3887

Product Use: Polyurethane isocyanate component

2. Hazards Identification

GHS Ratings:

Inhalation Toxicity	Acute Tox. 4	Gases>2500+<=5000ppm, Vapors>10+<=20mg/l, Dusts&mists>1+<=5mg/l
Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: >= 2.3 < 4.0 or persistent inflammation
Eye corrosive	2A	Eye irritant: Subcategory 2A, Reversible in 21 days
Respiratory sensitizer	1	Respiratory sensitizer
Skin sensitizer	1	Skin sensitizer
Reproductive toxin	2	Human or animal evidence possibly with other information
Specific target organ toxicity (single exposure)	3	Transient target organ effects- Narcotic effects- Respiratory tract irritation
Specific target organ toxicity (repeated exposure)	1	Significant toxicity in humans- Reliable, good quality human case studies or epidemiological studies Presumed significant toxicity in humans- Animal studies with significant and/or severe toxic effects relevant to humans at generally low exposure

GHS Hazards

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure

GHS Precautions

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P260	Do not breathe dust/fume/gas/mist/vapors/spray
P261	Avoid breathing dust/fume/gas/mist/vapors/spray

P264	Wash hands thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P271	Use only outdoors or in a well-ventilated area
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection
P281	Use personal protective equipment as required
P285	In case of inadequate ventilation wear respiratory protection
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P314	Get Medical advice/attention if you feel unwell
P321	Specific treatment is urgent (see Section 4 First Aid measures)
P362	Take off contaminated clothing and wash before reuse
P363	Wash contaminated clothing before reuse
P302+P352	IF ON SKIN: Wash with soap and water
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention
P332+P313	If skin irritation occurs: Get medical advice/attention
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P405	Store locked up
P403+P233	Store in a well ventilated place. Keep container tightly closed
P501	Dispose of contents/container in accordance with existing federal, state, and local environmental control laws.

Signal Word: Danger



Acute Health Effects:

Eyes: Severe irritation, tearing, swelling, and possible damage to cornea.

Skin: Irritation, redness, swelling, skin sensitization, rash, scaling, and blistering.

Inhalation: Mucous membrane and respiratory tract irritation, tightness of chest, isocyanate sensitization.

Ingestion: Irritating and corrosive to mouth, stomach, and digestive tract.

Conditions Aggravated by Exposure: Asthma, respiratory disorders, skin disorders, and eye disorders.

Chronic Health Effects: Isocyanates may cause skin and respiratory sensitivity in some individuals. Sensitized individuals may react to very low levels diisocyanates below the PEL. Sensitized people who continue to work with diisocyanates may develop symptoms sooner after each exposure. Limited evidence of possible carcinogenic effects. Possible other harmful target organ effects.

3. Composition/Data on Components:

Chemical Name	CAS number	Weight Concentration %
Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]	67837-35-8	60.00% - 70.00%
Cyclohexane, 1,1'-methylenebis[4-isocyanato-	5124-30-1	20.00% - 30.00%
Propylene carbonate	108-32-7	5.00% - 10.00%
Stannane, dimethylbis[(1-oxoneodecyl)oxy]-	68928-76-7	1.00% - 5.00%

4. First Aid Measures:

After Inhalation: May cause severe irritation to upper respiratory tract and lungs, respiratory sensitization, decreased lung capacity.

Remove from exposure area to fresh air. Administer oxygen or artificial respiration as needed. Obtain medical attention.

After Eye Contact: Rinse opened eye for at least 15 minutes under running water. Remove contact lenses if present and easy to do so, and continue rinsing. If irritation persists contact physician

After Skin Contact: If direct skin contact with isocyanates occurs, immediately remove contaminated clothing and shoes. Wipe off the isocyanate product from the skin using dry towels or other similar absorbent fabric. If readily available, apply a polyglycol-based cleanser (e.g. Colorimetric Laboratories, Inc. (CLI) D-TAM™ Skin Cleanser) or corn oil. Wash with soap and warm water and pat dry. If a polyglycol-based cleanser is not available, wash with soap and warm water for 15 minutes. If available, use a wipe test pad to verify decontamination is complete (e.g. CLI SWYPE™). Get medical attention if irritation develops. Discard or wash contaminated clothing before reuse. Call a physician if irritation or rash develops.

After Swallowing: Do not induce vomiting. If conscious, give 1 to 2 cups of milk or water to drink. Consult a physician at once.

Notes to Physician: Treat symptomatically. Following severe exposure the patient should be kept under medical observation for a least 48 hours.

5. Fire Fighting Measures:

Flash Point: 135 C (275 F)

LEL:

UEL:

Upper and Lower Explosive Limits listed if known.

Suitable Extinguishing Agents: Water spray, CO2, Foam, Dry chemical

Information about Protection against Explosions and Fires: During the incipient stage of a fire, containers should be kept cool by spraying with water (i.e., water suppression system) on the outside of container. Water spray will help prevent containers from overheating. Use cold-water spray to cool fire-exposed containers to minimize risk of rupture. Large fires can be extinguished with high volumes of water, such as from a fire hose applied from a safe distance. Closed containers may rupture when exposed to extreme heat due to build-up of pressure from thermal degradation and/or carbon dioxide generation.

Section 5 pertains to fire-fighting measures and reactivity is addressed in section 10.

Dangerous Products of Decomposition: Oxides of carbon, oxides of nitrogen, isocyanates, and traces of HCN.

Protective Equipment: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters.

6. Accidental Release Measures:

Person-Related Safety Precautions: Evacuate all non-essential personnel. Avoid contact with skin. Do not breathe aerosols or vapors.

Measures for Environmental Protection: Cover and contain spill with absorbent material. Place waste in open container. Remove to well ventilated area and dilute with ammonia solution (water 90%, concentrated ammonia 8%, detergent 2%). Collect for proper disposal according to local, state, and federal regulations.

Small Spills: Absorb with earth, sand or other absorbent material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece) clean surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use an absorbent material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

7. Handling and Storage:

Information for Safe Handling: Do not breathe fumes, vapors or mists. Use only with adequate ventilation. Avoid contact with skin or eyes. Immediately report spills or leaks.

Storage Requirements: Store containers in a dry, well ventilated area. Keep containers tightly closed and prevent moisture contamination. Do not re-seal the container if contamination is suspected. Store between 60°F and 100°F.

Regulatory Requirements: Store according to all local, state, and federal regulations.

8. Exposure Controls and Personal Protection:

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] 67837-35-8	Not Established	Not Established	Not Established
Cyclohexane, 1,1'-methylenebis[4-isocyanatocyclohexane] 108-32-7	0.01 ppm TWA	0.005 ppm TWA	NIOSH: 0.01 ppm Ceiling; 0.11 mg/m ³ Ceiling
Propylene carbonate 108-32-7	Not Established	Not Established	Not Established
Stannane, dimethylbis[(1-oxodecyl)oxy]- 22822-72-7	Not Established	STEL: 0.2 mg/m ³ Sn TWA: 0.1 mg/m ³ Sn	NIOSH IDLH: 25 mg/m ³ Sn TWA: 0.1 mg/m ³ except Cyhexatin Sn

Engineering Controls: Use local exhaust ventilation to maintain airborne concentrations below the TLV, especially if heating or spraying. Use only in a well ventilated area to keep vapors below exposure limits. Use local exhaust ventilation if necessary.

General Protective and Hygienic Measures: Usual precautionary measures should be adhered to when handling chemicals.

Personal Protective Equipment:

Respiratory Protection: Do not inhale vapors. Use NIOSH approved respiratory protection if TLV/PEL is exceeded. Do not enter storage area unless adequately ventilated.

Hand Protection: Protective butyl rubber or nitrile rubber gloves.

Eye Protection: Chemical safety goggles.

Body Protection: Impervious protective work clothing. Launder separately.

Contaminated Gear: Observe local requirements. Dispose of in accordance with local/state/federal regulations.

9. Physical and Chemical Properties:

Physical properties listed where known.

Appearance: Clear liquid	Odor: Pungent
Vapor Pressure: N/A	Odor threshold: N/A
Vapor Density: N/A	pH: N/A
Specific Gravity: 1.12	Melting point: N/A
Freezing point: N/A	Solubility: N/A
Boiling range: 242°C	Flash point: 275°F, 135°C
Evaporation rate: N/A	Flammability: N/A
Explosive Limits: N/A	Partition coefficient N/A (n-octanol/water):
Autoignition temperature: 510°C	Decomposition temperature: N/A

10. Stability and Reactivity:

Chemical Incompatible Materials: Product will react with a wide range of common chemicals. During use of this product in the work environment, protect the product from contamination such as inadvertent contact with water, amines, strong bases and alcohols. For example, allowing water inside a container will lead to the generation of carbon dioxide gas and result in the development of excess pressure if the container is tightly re-sealed.

Hazardous Polymerization: Not expected to occur under normal conditions.

Dangerous Products of Decomposition: Oxides of carbon, oxides of nitrogen, hydrocarbons, isocyanates, and traces of HCN.

11. Toxicological Information:

Mixture Toxicity

Inhalation Toxicity LC50: 2mg/L

Component Toxicity

5124-30-1 Cyclohexane, 1,1'-methylenebis[4-isocyanato-
Inhalation LC50: 0 mg/L (Rat)

68928-76-7 Stannane, dimethylbis[(1-oxonodecyl)oxy]-

Oral LD50: 894 mg/kg (Rat) Dermal LD50: 2,000 mg/kg (Rat)

Individual Toxicity Values Listed if Known

Acute Toxicity:

Eyes: Severe irritation, tearing, swelling, and possible damage to cornea.

Skin: Irritation, redness, swelling, skin sensitization, rash, scaling, and blistering.

Inhalation: Mucous membrane and respiratory tract irritation, tightness of chest, isocyanate sensitization.

Ingestion: Irritating and corrosive to mouth, stomach, and digestive tract.

Chronic Effects: Isocyanates may cause skin and respiratory sensitivity in some individuals. Sensitized individuals may react to very low levels diisocyanates below the PEL. Sensitized people who continue to work with diisocyanates may develop symptoms sooner after each exposure. Limited evidence of possible carcinogenic effects.

Routes of Entry: Inhalation, Ingestion, skin contact, eye contact.

Target Organs: Respiratory tract, eyes, skin, reproductive system.

Chemicals with Known or Possible Carcinogenic Effects:

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
None			None

12. Ecological Information:

General Information: Based on experience, no adverse effects are to be expected if correct disposal procedures have been followed as indicated in section 13. Individual component ecotoxicity listed if known.

Component Ecotoxicity

Cyclohexane, 1,1'-methylenebis[4-isocyanato-	96 Hr LC50 Brachydanio rerio: 1.2 mg/L [static]; 96 Hr LC50 Brachydanio rerio: 1.2 - 2.76 mg/L 48 Hr EC50 Daphnia magna: >8.3 mg/L 72 Hr EC50 Scenedesmus subspicatus: >5 mg/L 3 Hr EC50 Activated sludge microorganisms: 19 mg/L
Propylene carbonate	96 Hr LC50 Cyprinus carpio: >1000 mg/L [semi-static] 48 Hr EC50 Daphnia magna: >500 mg/L 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L

13. Disposal Considerations:

Recommendation: Observe local requirements. Dispose of in accordance with local/state/federal environmental control laws.

Empty Container Precautions: Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed and container is empty prior to disposal. Contact the Reusable Industrial Packaging Association (RIPA) at 301-577-3786 to find a drum re-conditioner in North America (www.reusablepackaging.org).

14. Transport Information:**DOT Regulated Components:**

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods unless specifically cited below. Otherwise, material ships as Plastic Resin, Liquid, Unregulated.

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
ICAO/IATA	Aviation Regulated Substance, Liquid, N.O.S.(Contains Dicyclohexylmethane-4,4'-Diisocyanate)	3334	III	9

15. Regulatory Information:

OSHA HAZARD COMMUNICATION STANDARD: This material is classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

SARA 311/312 Hazard Categories: Acute health hazard, chronic health hazard

California Proposition 65**(Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute unless otherwise listed:

WARNING: This product can expose you to chemicals listed below, which are known to the State of California to cause cancer, birth defects, or reproductive harm. For more information, visit www.P65Warnings.ca.gov

- None

Massachusetts Right To Know List:

Cyclohexane, 1,1'-methylenebis[4-isocyanato- 5124-30-1 20 to 30 %

New Jersey Right To Know List:

Stannane, dimethylbis[(1-oxonodecyl)oxy]- 68928-76-7 1 to 5 %
Cyclohexane, 1,1'-methylenebis[4-isocyanato- 5124-30-1 20 to 30 %

Pennsylvania Right To Know List:

Cyclohexane, 1,1'-methylenebis[4-isocyanato- 5124-30-1 20 to 30 %

SARA 302 Extremely Hazardous Substances:

- None

Chemicals subject to SARA 313 Reporting:

Cyclohexane, 1,1'-methylenebis[4-isocyanato- 5124-30-1 20 to 30 % Emissions

<u>Country</u>	<u>Regulation</u>	<u>All Components Listed</u>
Canada	Canada DSL	Yes
US	Toxic Substances Control Act	Yes

16. Other Information:

Safety Data Sheet issued by Product Safety Department

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Carlisle Polyurethane Systems. The data on these sheets relates only to the specific material designated herein. Carlisle Polyurethane Systems assumes no legal responsibility for use or reliance upon this data. It is the user's responsibility to ensure that their activities comply with federal, state, or local laws.

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