
SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product IdentifiersProduct Label: **Systherm A**

Chemical family: CAS 39349-83-2, Propanol, oxybis-, polymer with 1,6-diisocyanatohexane

Polymer by REACH definition

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

-Relevant identified uses: For medical use only

1.3 Details of the supplier of the Safety Data Sheet-Company: **pro3dure medical GmbH**

-Address: Am Burgberg 13

D 58642 Iserlohn

-Telephone: +49 (0)2374 920050-10 (Mon-Fri 9:00AM -5:00PM)

-E-mail address: info@pro3dure.com

1.4 Emergency telephone number

-Emergency telephone number: +49 (0)2374 920050-10 (Mon-Fri 9:00AM -5:00PM)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification

Acute Toxicity	No Data
Eye Dam./Irrit.	No Data
Skin Corr./Irrit.	No Data
Skin Sens.	No Data
Resp. Sens.	No Data
Carc.	No Data
STOT SE	No Data

2.2. GHS Label -**Signal Words: Warning****Hazard Statements:**

No toxicity data is known.

Likely skin and eye irritant.

Precautionary Statements:

Wear protective gloves, protective glasses, and face protection. If skin contact occurs, wash contacted area thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response:**Eye contact**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention of irritation develops.

Skin contact

Immediately remove contaminated clothing and shoes. Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion

Do not induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

Storage:

Keep container dry and tightly closed in a cool and well-ventilated place. Protect from moisture, heat and foreign material.

Disposal:

Dispose of contents and container to an approved waste disposal plant. Seal and label product waste and contaminated empty containers and provide for suitable disposal under observation of the national official regulations.

Important Symptoms:

May cause an allergic skin reaction.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Proprietary isocyanate. CAS 39349-83-2, Propanol, oxybis-, polymer with 1,6-diisocyanatahexane.

SECTION 4: FIRST AID MEASURES

4.1. Description of first-aid measures**4.1.1. In case of eye contact**

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops.

4.1.2. In case of skin contact

- Wash off immediately with plenty of soap and water.
- Immediately remove contaminated clothing and shoes. Wash contaminated clothing before reuse.
- If irritation develops and persists, seek medical attention.

4.1.3. If swallowed

- Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

4.2. Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described: Eye irritation, skin irritation

4.3 Notes to Physician

Eyes: stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

Skin: This compound is a probable skin irritant. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Characteristic hazards

Combustible. May burn or bomb after heating. Reacts with amine, alcohols and hot water. Toxic vapors are released during combustion.

5.2 Harmful Combustion Products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x)

5.3. Extinguishing media

Dry powder, carbon dioxide, foam; water spray for large fires. Firefighters should wear professional fire fighting protective equipment, including self-contained breathing apparatus, helmet, hood, boots and gloves. Put the container to open places and avoid contacting with product.

5.4. Special protective actions for fire-fighters

Nitrous gases, fumes/smoke, isocyanate, vapor

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

5.5. Unusual Fire and Explosion Hazards

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture.

Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

6.2. Environmental precautions

- Should not be released into the environment.
- Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

- For small amounts: absorb isocyanate with suitable absorbent material (sawdust, kitty litter). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following decontamination solution: Mixture of 90% water, 8% concentrated ammonia, 2% detergent (Windex). Add at a 10:1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

- For large amounts: Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.
- For residues: The following measures should be taken for final cleanup: wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Dike spillage.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Protect against moisture.
- If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before re-sealing.
- Wear appropriate eye and skin protection to avoid contact. Wash thoroughly after handling.

7.2. Conditions for storage, including incompatibilities

7.2.1. Storage

- Keep away from water. Segregate from foods and animal feeds.
- Segregate from acids and bases.

7.2.2. Suitable material for containers

- Carbon steel, Stainless steel
- HDPE, LDPE

7.2.3 Storage conditions

Can be stored at least 9 months if in dry and tightly closed container and well-ventilated.
Protect against moisture.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Components with occupational exposure limits

None.

8.2 Individual protection measures**Hand protection**

Chemical resistant protective gloves should be worn to prevent all skin contact.
Suitable material: Neoprene, nitrile rubber, chlorinated polyethylene, PVC, butyl rubber

Eye protection

Safety glasses. Wear face shield if splashing hazard exists.

Body protection

Prevent all skin contact. Suitable materials may include saran-coated material.

Hygiene Measures

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL or TLV value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Physical and chemical properties**9.1.1. General Information**

Appearance:	liquid
Odor	None
Color	colorless

9.1.2. Important health safety and environmental information

pH	not applicable
Melting point/freezing point	unknown
Boiling point/boiling range	>200C
Flash point	No data available
Evaporation rate	No data available
Flammability	no data
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	no data
Explosive properties	not relevant
Vapour pressure	<0.5mmHg at 120C
Vapour density	not applicable
Relative density	no data available
Surface Tension	No data available
Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	5000cps
Oxidizing properties	not applicable

9.2. Other information

Granulometry	Not Applicable
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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No corrosive effect on metal.
Not classified as oxidizing.

10.2. Chemical Stability

-Stable under recommended storage conditions.
-Can decompose to monomeric products at temperatures > 160C.

10.3. Possibility of hazardous reactions

Reacts with water, with formation of carbon dioxide. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

10.4. Conditions to avoid

Avoid moisture.

10.5. Incompatible materials.

-acids, amines, alcohols, water, alkalines, strong bases, substances that react with isocyanates.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors.

Thermal decomposition: no decomposition if stored and handled as prescribed/indicated.

SECTION 11: TOXICOLOGICAL INFORMATION

Primary routes of exposure

Routes of entry for solids and liquids are ingestion, but may include eye or skin contact.

11.1. Acute toxicity**11.1.1. Acute oral toxicity**

Unknown

11.1.2. Acute inhalation toxicity

Unknown.

11.1.3. Acute dermal toxicity

Unknown

11.1.4. Eye irritation

Unknown

11.4. Respiratory or skin sensitization

Dermal: Unknown

Other isocyanates have been shown to produce dermal and respiratory sensitization in several species. In addition, there is some evidence to suggest that cross-sensitization between different types of diisocyanates may occur. Dermal: sensitizer, inhalation: sensitizer

11.6. Carcinogenicity

Unknown

11.7. Toxicity for reproduction

Unknown

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Unknown

12.2. Persistence and degradability

Unknown

12.3 Bioaccumulative potential

Unknown

12.4. Microorganisms/effect on activated sludge

Unknown

12.5. Mobility in soil

Unknown

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Dispose of by incineration or according to local and national regulations. Do not discharge into sewer system.

13.2. Contaminated packaging

Empty containers retain product residue; observe all precautions for product. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

SECTION 14: TRANSPORT INFORMATION

14.1. International transport regulations

-USDOT	- not classified as a dangerous good under transport regulations
-IATA DGR	- not classified as a dangerous good under transport regulations
-IMDG	- not classified as a dangerous good under transport regulations
-ADR	- Not regulated for transport
-RID	- Not regulated for transport
-AND	- Not regulated for transport

Further information

DOT: This product is regulated if the amount in a single receptacle exceeds the reportable quantity (RQ). See section 15.

SECTION 15: REGULATORY INFORMATION

The product is classified and labeled according to Regulation (EC)

No. 1271/2008 (GHS/CLP).

Contains isocyanates. See information supplied by the manufacturer.

--Global Chemical Inventories--**USA**

This substance is NOT known to be listed on the U.S. TSCA Inventory.

REACH

This substance meets definition of a polymer.

DISCLAIMER:

Pro3dure medical GmbH urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate. However, no warranty or representation of any kind, express or implied, is given, including any warranty of merchantability or fitness for a particular purpose nor shall pro3dure medical GmbH indemnify any buyer against or be liable for any third party claims with respect to such information or any use thereof. Regulatory requirements are subject to change and may differ between various locations. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product.