

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

### Product Identifier

Product Name: Component for Polyurethane mold rubber  
Synonyms: n/a  
Trade Names: Liquaglass A

### Relevant identified uses of the substance or mixture and uses advised against:

Main Applications (non exhaustive list): Component for Polyurethane mold rubber.  
For industrial / professional use only.

### Details of the supplier of the Safety Data Sheet

Company Name: Castaldo  
A division of: Goodwin Refractory Services Ltd.  
Address: Spencroft Road, Holditch Industrial Estate  
Newcastle under Lyme, Staffordshire, ST5 9JE, UK  
Phone No. +44 (0)1782 663600  
Fax No. +44 (0)1782 663611  
Email address: info@grscastingpowders.com

### Emergency telephone number:

Emergency Telephone No. +44 (0)1782 663600  
Available outside office hours? No

## 2. HAZARDS IDENTIFICATION

### Classification:

Acute Inhalation Toxicity: Category 4  
Skin Irritation: Category 2  
Eye Irritation: Category 2  
Respiratory Sensitization: Category 1  
Skin Sensitization: Category 1  
Reproductive Toxicity: Category 1B  
Specific Target Organ Toxicity Single Exposure: Category 3 (Respiratory Irritation)

### Label elements:



### Signal word: **Danger**

### Hazard statements:

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.

### Precautionary statements:

P261: Avoid breathing mist, vapours, or spray.  
P264: Wash thoroughly after handling.  
P271: Use only outdoors or in a well ventilated area.  
P280: Wear protective gloves, protective clothing, eye protection, and face protection.  
P501: Dispose of contents and container in accordance with local regulations.

### Supplemental Information:

Individuals sensitized to isocyanates should discontinue use. Long-term over-exposure to isocyanates may cause lung damage. This is one part of a two-part system. Read and understand the hazard information on part B before using.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

### Mixture

	CAS #	%
4,4'-methylene di(cyclohexyl isocyanate)	5124-30-1	0-1
4,4'-methylene di(cyclohexyl isocyanate)/polyether polyol prepolymer	Unknown	60

## 4. FIRST AID MEASURES

### Description of first aid measures:

Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes, holding eye lids open to be sure the material is washed out. Get prompt medical attention.
Inhalation:	Move exposed person to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
Ingestion:	Do not induce vomiting unless directed to do so by medical personnel. Get medical attention.
Skin Contact:	Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before reuse. Discard items that cannot be decontaminated.

**Most important symptoms/ effects:** Causes skin and eye irritation. Vapors or mists may cause respiratory irritation. May cause allergic skin and / or respiratory reaction in sensitized persons. Symptoms may include skin rash, wheezing, shortness of breath and other asthma symptoms. Prolonged inhalation overexposure may damage the lungs and respiratory system.

### Indication of any immediate medical attention and special treatment

**needed:** Immediate medical attention is required for asthmatic symptoms or serious inhalation exposures. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Persons sensitized to Diisocyanate should consult a physician before working with respiratory irritants or sensitizers.

## 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Use water fog, foam, carbon dioxide or dry chemical. Do not use solid water stream. Solid stream of water into hot product may cause violent steam generation or eruption.

**Special hazards arising from the substance or mixture:** Not classified as flammable or combustible. Product will burn under fire conditions.

**Advice for firefighters:** Wear positive pressure, self-contained breathing apparatus and full-body protective clothing. Cool fire-exposed containers with water.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective and emergency procedures:** Remove all ignition sources. Clear non-emergency personnel from the area. Ventilate area. Wear appropriate protective clothing to prevent eye and skin contact and respiratory protection.

### Methods and material for containment and cleaning up:

Cover with an inert absorbent material and collect into an appropriate container for disposal. Do not seal the container since CO<sub>2</sub> is generated on contact with moisture and dangerous pressure buildup can occur. Decontaminate floor area with a mixture of water plus isopropyl alcohol (10–20%), household ammonia (10%), and detergent (2%).

## 7. HANDLING AND STORAGE

### Precautions for safe handling:

Avoid breathing vapors or mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep container closed when not in use.

### Precautions for safe storage:

Store indoors at temperatures between 55 F and 95 F (13 C and 35 C). Store in original, unopened containers. Protect from atmospheric moisture and water since TDI reacts with water to form CO<sub>2</sub> leading to potentially dangerous pressure build up in sealed containers.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational Exposure limits:

Chemical name	Exposure limits
4,4'-methylene di(cyclohexyl isocyanate)	0.005 ppm TWA ACGIH TLV
	0.01 ppm (C) NIOSH
	0.02 mg/m <sup>3</sup> TWA UK EH40

**Ventilation:** Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

**Respiratory protection:** If needed (i.e., ventilation is inadequate), use a NIOSH– approved air– purifying, tight- fitting, half– face respirator with organic vapor cartridges. Respirator selection and use should be based on containment type, form and concentration. For higher exposures or in an emergency, use a supplied– air respirator.

**Skin protection:** Wear impervious gloves, such as butyl rubber or nitrile rubber.

**Eye protection:** Wear chemical safety goggles / glasses.

**Other protective measures:** Wear impervious clothing to prevent skin contact and contamination of personal clothing. An eye wash and washing facility should be available in the work area. Follow good industrial hygiene practices.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colourless liquid
Odor:	Mild acrid
Odor threshold:	No data available
pH	Not applicable
Melting point/ freezing point:	No data available
Initial Boiling point:	No data available
Flash point:	>149C (300F)
Evaporation rate:	No data available
Flammability:	No data available
Upper/ lower flammability exposure limit:	No data available
Vapour pressure:	≤0.001 mm Hg @ 20C
Relative density:	1.0 @ 25C
Water solubility:	No data available
Partition coefficient:	Reacts with water
Auto ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	3200 cP @25C
Explosive Properties:	No data available
Oxidising properties:	No data available

## 10. STABILITY AND REACTIVITY

**Reactivity:** Diisocyanate react with many materials and the rate of reaction increases with temperature. Reaction with water generates carbon dioxide and heat.

**Chemical stability:** Stable under recommended conditions.

**Possibility of hazardous reactions:** Elevated temperatures can cause hazardous polymerization. Polymerization can be catalyzed by strong bases of water. Reaction with water generates carbon dioxide, and results in heat and pressure buildup in closed systems.

**Conditions to avoid:** Avoid moisture and temperatures below 60 F (13 C) and above 95 F (35 C) to protect product integrity.

**Incompatible materials:** Avoid contact with water, acids, bases, alcohols, strong oxidizers, and some metals (e.g., aluminum, zinc, brass, tin, copper).

**Hazardous decomposition products:** Possibly isocyanate vapor, carbon monoxide, nitrogen oxides, and traces of hydrogen cyanide.

## 11. TOXICOLOGY INFORMATION

### Information on toxicology effects:

Acute toxicity values: No data available

Germ Cell Mutagenicity: No components classed as mutagens.

Carcinogenicity: No components classed as carcinogens by NTP, IARC, or OSHA.

Reproductive toxicity: No components present above cut-off levels are classified as reproductive toxins.

Specific Target Organ Toxicity:

Single Exposure: No data available.

Repeated exposure: After repeated exposure, isocyanates can cause respiratory irritation and lung damage.

**12. ECOLOGICAL INFORMATION**

Eco toxicity: Not classified as dangerous to aquatic organisms.  
Persistence and Degradability: Not readily biodegradable.  
Bioaccumulative Potential: Not expected to be Bioaccumulative  
Mobility in soil: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

**13. DISPOSAL CONSIDERATIONS**

Dispose according to local, state and federal regulations. Upon exposure to moisture, product forms an inert, non-hazardous solid. For U.S.: Upon disposal, this product is not a RCRA hazardous waste (per 40 CFR 261).

**14. TRANSPORT INFORMATION**

Not regulated for transport in any mode.

**15. REGULATORY INFORMATION**

CERCLA 103 Reportable quantity: This product is not subject to reporting under CERCLA. Some states have more stringent requirements. Report all spills in accordance with local, state and federal regulations.

SARA Title III:

Section 311/312: Acute health, Chronic health

Section 313 Toxic chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Diisocyanates category (N120) 0-1%

EPA Toxic substances control act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

State Regulations:

California Proposition 65: WARNING: This product is known to the state of California to cause cancer. (This warning is required owing to the presence of plasticizer ingredient deemed by CA to cause cancer. But the same plasticizer is not classified as hazardous under GHS).

**16. OTHER INFORMATION**

Training advice: Train personnel using this product in proper chemical handling, engineering controls and protective equipment.

Recommended uses and restrictions: This product is intended for industrial / professional use only.

**Revision History:**

09/07/2020– Rev 1 (New document)

**Disclaimer:**

Such information given on this safety data sheet is to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as its accuracy, reliability or completeness. It is the users responsibility to satisfy itself as to the suitability and completeness of such information for their own particular use.