MATERIAL SAFETY DATA SHEET

PRODUCT: Q-Tel 2032 Polyol

Prepared: 26 April 2010
Supersedes: 31 May 2007

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Q-Tel 2032 Polyol
Chemical Family: Polyurethane Polyols
Product Use: Duct Sealing Foam
Manufacturer: Chemque, Inc.
266 Humbertine Drive
Rexdale, ON
M9W 5X1
CANADA

Telephone Number: (416) 679-5676
In Emergency Only: CANUTEC Collect: + 1 (613) 998-6666 (24-hour hotline)
Information: + 1 (613) 992-4624

SECTION 2: HAZARDOUS INGREDIENT INFORMATION

CONTAINS NO HAZARDOUS INGREDIENTS

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview: Clear, amber liquid.
Slightly sweet odour.

Potential Health Effects: Eyes – Not expected to cause irritation.
Skin – Not expected to cause irritation.
Inhalation – Not expected to cause irritation.
Ingestion – Not expected to be a hazard.
Chronic Effects – None known.

SECTION 4: FIRST AID MEASURES

Eyes: Flush eyes with water for 15 minutes. If irritation persists, consult a physician.
Skin: Wash thoroughly with soap and water. Remove and wash clothing before re-use.
Inhalation: Move to fresh air; no adverse effects likely.
Ingestion: Induce vomiting, drink water; call a physician.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties: No unusual fire or explosion hazards.
Extinguishing Media: CO₂, water spray, foam, dry chemical.
Hazardous Combustion Products: N/E
Protection of Fire Fighters: Self contained breathing apparatus and full protective clothing should be worn by fire fighters.
### SECTION 6: ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Personal Precautions:</th>
<th>Use personal protective equipment as recommended in Section 8.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Precautions:</td>
<td>Do not empty into drains or discharge into the soil/subsoil.</td>
</tr>
<tr>
<td>Methods for Containment:</td>
<td>Cover spill with absorbent material. Remove for disposal.</td>
</tr>
<tr>
<td>Methods for Clean-Up:</td>
<td>Wash affected area thoroughly with soap and water.</td>
</tr>
</tbody>
</table>

### SECTION 7: HANDLING AND STORAGE

| General Warning to Prevent Exposure: | Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. |
| General Storage Information: | Store in tightly-sealed containers in a cool, dry, well-ventilated area. |

### SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Exposure Limit</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineering Controls</strong>: Use local exhaust ventilation to keep vapour concentrations low.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal Protective Equipment</strong>:</td>
<td><strong>Eyes</strong>: Safety glasses or goggles; face shield if risk of splashing is present. <strong>Skin</strong>: Rubber or plastic gloves; chemical apron if risk of splashing is present. <strong>Inhalation</strong>: None required. <strong>Other</strong>: Safety shower, eye bath.</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Clear amber, low-viscosity liquid</td>
</tr>
<tr>
<td>Odour:</td>
<td>Mild, slightly sweet odour</td>
</tr>
<tr>
<td>Melting Point (°C):</td>
<td>N/E</td>
</tr>
<tr>
<td>Boiling Point (°C):</td>
<td>N/E</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>185°C (Cleveland Open Cup)</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>N/E</td>
</tr>
<tr>
<td>Upper/Lower Flammable Limits:</td>
<td>N/E</td>
</tr>
<tr>
<td>Vapour Pressure @ 25°C:</td>
<td>N/E</td>
</tr>
<tr>
<td>Vapour Density:</td>
<td>N/E</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.06</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>VOC content:</td>
<td>N/E</td>
</tr>
</tbody>
</table>
### Section 10: Stability and Reactivity

- **Chemical Stability:** Stable
- **Conditions to Avoid:** None
- **Incompatible Materials:** Strong oxidizers, acids, alkalines and metals, amines
- **Hazardous Decomposition Products:** Carbon dioxide and carbon monoxide on combustion
- **Possibility of Hazardous Reactions:** Will not occur

### Section 11: Toxicological Information

- **Acute Dose Toxicity:** N/A
- **Repeated Dose Toxicity:** None known.
- **Sensitization:** Not a known sensitizer.
- **Carcinogenicity:** Not a known carcinogen.
- **Neurological Effects:** N/E
- **Genetic Effects:** N/E
- **Reproductive Effects:** N/E
- **Developmental Effects:** N/E
- **Target Organ Effects:** N/E

### Section 12: Ecological Information

- **Biodegradability:** Not readily biodegradable.
- **Other:** Do not flush into surface water or sanitary sewer system.

### Section 13: Disposal Considerations

Recover or recycle if possible. Dispose of this material in accordance with local, provincial and federal laws and regulations. All provided information only applies to the material as supplied to the user. The characteristics outlined may not apply if the material has been used or otherwise contaminated. It is the responsibility of the user to determine the proper waste identification and disposal methods in compliance with applicable regulations.

### Section 14: Transport Information

NOT REGULATED FOR TRANSPORT
SECTION 15: REGULATORY INFORMATION

EU Regulations:  
Name of material:  Q-Tel 2032 Polyo  
Country of Origin:  Canada  
This product has been classified and labelled in accordance with EU directives 67/548/EEC and 1999/45/EC and their adaptations and annexes.

Canadian Regulations:  
This material is not classified as hazardous under the WHMIS classification system.  
All of the components of this material appear on the "Domestic Substances List" (DSL).  
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required in the Controlled Products Regulations.

US Regulations:  
This material is not classified as hazardous.  
All of the components of this material appear on the "Toxic Substances Control Act" (TSCA) inventory.

SECTION 16: OTHER INFORMATION

Abbreviations:  
N/E  Not Established  
TLV  Threshold Limit Value  
TWA  Time-Weighted Average

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested method of application and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done at Chemque. All technical assistance and information provided with respect to Chemque’s products is subject to Chemque’s Terms and Conditions, including the limited warranty therein. Chemque’s Terms and Conditions appear on the reverse side of Chemque’s credit applications and invoices and are available upon your request. Except as expressly provided in the Terms and Conditions, Chemque excludes all express and implied warranties, representations, conditions and objections, whether statutory or otherwise, concerning the quality of the products of Chemque or their fitness for any particular purpose. It is expressly understood and agreed that the customer assumes and hereby expressly releases Chemque from all liability, in tort, contract, or otherwise, incurred in connection with the use of our products, technical assistance and information. Any statement or recommendation not contained herein is unauthorized and shall not bind Chemque. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any
# Safety Data Sheet (SDS)

## MATERIAL SAFETY DATA SHEET

**PRODUCT:** Q-Tel 2032 Isocyanate

Prepared: 26 April 2010
Supersedes: 7 September 2007

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product:</th>
<th>Q-Tel 2032 Isocyanate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Family:</td>
<td>Aromatic Isocyanate</td>
</tr>
<tr>
<td>Product Use:</td>
<td>Duct Sealing Foam</td>
</tr>
<tr>
<td>Responsible Party:</td>
<td>Chemque, Inc. 266 Humberline Drive Rexdale, ON M9W 5X1 CANADA</td>
</tr>
<tr>
<td>Telephone Number:</td>
<td>(416) 679-5676</td>
</tr>
<tr>
<td>In Emergency Only:</td>
<td>CANUTEC Collect: +1 (613) 996-6666 (24-hour hotline) Information: +1 (613) 992-4624</td>
</tr>
</tbody>
</table>

## SECTION 2: HAZARDS IDENTIFICATION

**Emergency Overview:**

**Potential Health Effects:**
- **Eyes** – Irritant.
- **Skin** – Irritant. Prolonged or repeated contact can lead to reddening, drying and blistering. Sensitizer.
- **Inhalation** – Highly toxic by inhalation of aerosol or mist. Sensitizer.
- **Ingestion** – May cause irritation. Aspiration hazard if swallowed.
- **Chronic Effects** – Prolonged or repeated inhalation of isocyanate vapours can cause lung damage. Heating of the product may release additional vapours.

This product has been classified and labelled in accordance with EU directives 67/548/EEC and 1999/45/EC and their adaptations and annexes.

## SECTION 3: HAZARDOUS INGREDIENT INFORMATION SECTION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>% (W/W)</th>
<th>CAS Number</th>
<th>EC #</th>
<th>Risk/Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymeric Diphenylmethane Diisocyanate</td>
<td>30-60</td>
<td>9016-87-9</td>
<td>Not Listed</td>
<td>R:23-36/37/38-42/43</td>
</tr>
<tr>
<td>4,4'Diphenylmethane diisocyanate</td>
<td>30-60</td>
<td>101-68-8</td>
<td>202-966-0</td>
<td>R20-36/37/38-42/43-48/20</td>
</tr>
</tbody>
</table>

See section 15 for further information on EU classification.
# Safety Data Sheet (SDS)

## SECTION 4: FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Flush eyes with water for 15 minutes. Call a physician if irritation occurs.</td>
</tr>
<tr>
<td>Skin</td>
<td>Remove affected clothing. Wash skin with soap and water immediately. Wash contaminated clothing before re-use. Contact physician if irritation occurs.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Move to fresh air. If breathing difficulties occur, administer oxygen and seek medical attention.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Drink 1-2 cups of milk or water. Do not induce vomiting. Call a physician.</td>
</tr>
</tbody>
</table>

## SECTION 5: FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Property/Condition</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Properties</td>
<td>Reacts slowly with water to produce CO2 which may rupture closed containers. Reaction accelerates at higher temperatures.</td>
</tr>
<tr>
<td>Hazardous Combustion Products</td>
<td>CO, CO2, Nitrous Oxide, HCN and hydrocarbons.</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>CO₂, dry chemical, foam, water spray (fog). Do not use water jet.</td>
</tr>
<tr>
<td>Protection of Fire fighters</td>
<td>Self-contained breathing apparatus and full protective clothing should be worn by fire fighters.</td>
</tr>
</tbody>
</table>

## SECTION 6: ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Precaution</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Precautions</td>
<td>Clean-up should only be performed by trained personnel. Use personal protective equipment as recommended in Section 8.</td>
</tr>
<tr>
<td>Environmental Precautions</td>
<td>Do not empty into drains or discharge into the soil/subsoil.</td>
</tr>
<tr>
<td>Methods for Containment</td>
<td>Cover spill with absorbent material. Place in an open-top container or on a plastic sheet and remove to ventilated area. Remove for disposal.</td>
</tr>
<tr>
<td>Methods for Clean-Up</td>
<td>Clean spill area with a solution of 90% water, 8% ammonium hydroxide and 2% detergent.</td>
</tr>
</tbody>
</table>

## SECTION 7: HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Warning to Prevent Exposure</td>
<td>Do not breathe fumes or vapours. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.</td>
</tr>
<tr>
<td>General Storage Information</td>
<td>Store in tightly-sealed containers in a cool, dry area. Keep away from moisture.</td>
</tr>
</tbody>
</table>
# Safety Data Sheet (SDS)

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Exposure Limit</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymeric Diphenylmethane Diisocyanate</td>
<td>0.005 (ACGIH/TLV)</td>
<td>ppm</td>
</tr>
<tr>
<td>4,4’Diphenylmethane disocyanate</td>
<td>0.005 (ACGIH/TLV)</td>
<td>ppm</td>
</tr>
</tbody>
</table>

**Engineering Controls:** Use local exhaust ventilation to keep vapour concentrations below TLV.

**Personal Protective Equipment:**
- **Eyes:** Safety glasses or goggles; face shield if risk of splashing is present.
- **Skin:** Rubber gloves and protective clothing to prevent skin contact.
- **Inhalation:** Approved organic respirator if TLV is exceeded.
- **Other:** Safety shower, eye bath.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Amber-brown liquid
- **Odour:** Slightly musty
- **Melting Point:** N/E
- **Boiling Point:** > 300 C (decomposes)
- **Flash Point:** > 203 C (397.4 F) Closed Cup
- **Evaporation Rate:** N/E
- **Upper/Lower Flammable Limits:** N/E
- **Vapour Pressure @ 25°C:** 0.000004 mmHg
- **Vapour Density:** 8.5
- **Specific Gravity: @ 25 C** 1.23
- **Solubility:** N/E
- **VOC content:** N/E

## SECTION 10: STABILITY AND REACTIVITY

- **Chemical Stability:** Stable
- **Conditions to Avoid:** Moisture, excessive heat
- **Incompatible Materials:** Water, strong bases, acids, alcohols, amines.
- **Hazardous Decomposition Products:** CO, CO2, Nitrous oxides, HCN, hydrocarbons
- **Possibility of Hazardous Reactions:** Possibility of hazardous polymerization if contacted with excessive moisture or with other materials that react with isocyanates.
Safety Data Sheet (SDS)

MATERIAL SAFETY DATA SHEET

PRODUCT: Q-Tel 2032 Isocyanate

Prepared: 26 April 2010
Supersedes: 7 September 2007

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Dose Toxicity:
- Polymeric diphenylmethane diisocyanate
  - Oral LD_{50} > 5000 mg/kg (rat)
  - Dermal LD_{50} > 5000 mg/kg (rabbit)
  - Inhalation LC_{50}: 490 mg/m^3/4h (rat)
- 4,4’Diphenylmethane diisocyanate
  - Oral LD_{50} > 5000 mg/kg (rat)
  - Dermal LD_{50} > 5000 mg/kg (rabbit)
  - Inhalation LC_{50}: 490 mg/m^3/4h (rat)

Repeated Dose Toxicity: N/E

Sensitization: May cause sensitisation by skin contact or by inhalation.

Carcinogenicity: Not listed as a Carcinogen by ACGIH, IARC, NTP.

Neurological Effects: N/E.

Genetic Effects: N/E

Reproductive Effects: No adverse effects are anticipated.

Developmental Effects: No adverse effects are anticipated.

Target Organ Effects: Lungs – chronic inhalation can cause respiratory distress and respiratory impairments.

SECTION 12: ECOLOGICAL INFORMATION

Biodegradability: Not readily biodegradable.

SECTION 13: DISPOSAL CONSIDERATIONS

Recover or recycle if possible.

Dispose of this material in accordance with local, provincial and federal laws and regulations.

All provided information only applies to the material as supplied to the user. The characteristics outlined may not apply if the material has been used or otherwise contaminated. It is the responsibility of the user to determine the proper waste identification and disposal methods in compliance with applicable regulations.

SECTION 14: TRANSPORT INFORMATION

TDG: NOT REGULATED

DOT: NOT REGULATED < 5000 lbs.
Safety Data Sheet (SDS)

MATERIAL SAFETY DATA SHEET

PRODUCT: Q-Tel 2032 Isocyanate

Prepared: 26 April 2010
Supersedes: 7 September 2007

SECTION 15: REGULATORY INFORMATION

EU Regulations:
Name of material: Q-Tel 2032 Isocyanate
Country of Origin: Canada
Hazard:
R23: Toxic by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin
R42/43: May cause sensitisation by inhalation and skin contact
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation
S23: Do not breathe gas/fumes/vapour/spray
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection
S33: In case of insufficient ventilation wear suitable respiratory equipment
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

This product has been classified and labelled in accordance with EU directives 67/548/EEC and 1999/45/EC and their adaptations and annexes.

Canadian Regulations:
As per WHMIS, this material is classified:
D1A, D2A, D2E All of the components of this material appear on the "Domestic Substances List".

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required in the Controlled Products Regulations.

US Regulations:
This material is classified as hazardous under OSHA regulation 29 CFR 1910.1200.
All of the components of this material appear on the "Toxic Substances Control Act" (TSCA) inventory.

SECTION 16: OTHER INFORMATION

Abbreviations:
N/E Not established
TLV Threshold Limit Value
TWA Time-Weighted Average

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested method of application and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must, at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done at Chemque. All technical assistance and information provided with respect to Chemque's products is subject to Chemque's Terms and Conditions, including the limited warranty therein. Chemque's Terms and Conditions appear on the reverse side of Chemque's credit applications and invoices and are available upon your request. Except as expressly provided in the Terms and Conditions, Chemque excludes all express and implied warranties, representations, conditions and objections, whether statutory or otherwise, concerning the quality of the products of Chemque or their fitness for any particular purpose. It is expressly understood and agreed that the customer assumes and hereby expressly releases Chemque from all liability, in tort, contract, or otherwise, incurred in connection with the use of our products, technical assistance and information. Any statement or recommendation not contained herein is unauthorized and shall not bind Chemque. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.