



**GLEN RESEARCH**

## SAFETY DATA SHEET Product 60-4040

### 1. Product and Company Identification

|                                  |   |
|----------------------------------|---|
| Product Codes:                   | 60-4040   |
| Product Name:                    | 2% TFA  |
| Product Use:                     | For Research Use Only   |
| Manufacturer Information         |   |
| Company Name:                    | Glen Research Corporation<br>22825 Davis Drive, #100<br>Sterling, VA 20164 USA<br>+1-703-437-6191 |
| Phone Number:                    | +1-703-437-6191   |
| Web Site Address:                | www.glenresearch.com  |
| Email Address:                   | msds@glenres.com  |
| Information in case of emergency | Chemtrec, 800-424-9300; Outside USA +1-703-527-3887   |

### 2. Hazards Identification



**Pictograms:**

**Signal Words:** N/A

#### GHS Hazard Statements

H314: Causes severe skin burns and eye damage  
H332: Harmful if inhaled.  
H335: Harmful to aquatic life.

#### GHS Precautionary Statements

P103: Read label before use.  
P260: Avoid breathing fumes or vapors.  
P270: Do not eat, drink or smoke when using this product

#### GHS Response Statements

P301+330: IF SWALLOWED: Rinse mouth with water.  
P302+350: IF ON SKIN: Gently wash with soap and water.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so - continue rinsing.  
P306+360: IF ON CLOTHING: Rinse contaminated clothing and skin immediately with plenty of water before removing clothes.  
P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
P362: Take off contaminated clothing and wash before use.

#### GHS Storage and Disposal Phrases

P402+404: Store in dry place. Store in closed container.  
P501: Dispose of contents / container in a safe way in accordance with all federal, state and local regulations.

#### Emergency Overview

No data available.

#### Target Organs

No data available

# SAFETY DATA SHEET

Product 60-4040-XX

## 3. Composition/Information on Ingredients

| Product Name         | CAS #     | EC-No     | Concentration | M.W.         | Formula                                       |
|----------------------|-----------|-----------|---------------|--------------|---|
| Trifluoroacetic acid | 76-05-1   | 200-929-3 | 2%            | 114.02 g/mol | C <sub>2</sub> HF <sub>3</sub> O <sub>2</sub> |
| Water                | 7732-18-5 | 231-791-2 | 98%           | 18.02 g/mol  | H <sub>2</sub> O                              |

## 4. First Aid Measures

### Emergency and First Aid Procedures

#### If inhaled:

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

#### In case of skin contact:

Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Wash clothing before reuse. Get medical attention.

#### If swallowed:

Rinse mouth with water. Do not induce vomiting. Get medical attention.

#### If in contact with eyes:

Rinse cautiously with water for several minutes. Remove contact lenses if present and safe to do so. Continue rinsing. Get medical attention.

### Signs and Symptoms of Exposure

No data available.

### Treatment

Treat symptomatically.

## 5. Fire Fighting Measures

### Suitable Extinguishing Media

Use a Class A Extinguisher (Dry chemical, carbon dioxide, water or foam).

### Special protective equipment for fire fighters

Wear self-contained breathing apparatus (SCBA) for fire fighting if necessary.  
Wear protective clothing to prevent contact with skin and eyes.

### Flammable Properties and Hazards

No data available.

## 6. Accidental Release Measures

### Personal Precautions

Avoid breathing vapors. Evacuate personnel to safe areas.

### Protective equipment

Use personal protective equipment. Avoid contact with skin, eyes, and clothing.

### Emergency procedures

Ensure adequate ventilation.

### Methods and Material for containment and cleaning up.

Absorb spillage with sand, absorbent pads. Do not let product enter the drain. Wear impermeable gloves, safety glasses and a lab coat when cleaning up the spill. Dispose of absorbent and spillage in compliance with local and state regulations.

## 7. Handling and Storage

### Precautions To Be Taken in Handling

Handle using safe laboratory practices. Avoid all direct contact.

### Recommended Storage

Controlled room temperature.

### Precautions To Be Taken in Storing

Keep container tightly closed. Store in well-ventilated place.

### Other Precautions

Protect from sunlight.

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**8. Exposure Controls/Personal Protection**

| Product Name         | CAS #   | OSHA PEL (TWA) | ACGIH TLV | OSHA (STEL) |
|----------------------|---------|----------------|-----------|-------------|
| Trifluoroacetic acid | 76-05-1 | N/A            | N/A       | N/A         |

**Engineering Controls (Ventilation etc.)**

Local exhaust ventilation is usually sufficient.

**Respiratory Equipment (Specify Type)**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

**Eye Protection**

Safety glasses with side shields. Wear splash resistant goggles or face shield if splashes are likely to occur.

**Protective Gloves**

Impermeable, chemically resistant gloves.

**Other Protective Clothing**

Lab coat, chemical resistant lab coat, protective chemical suit, based on risk assessment of activities.

**Work/Hygienic/Maintenance Practices**

Wash hands after handling. Do not eat, drink, or smoke when using this product.

**9. Physical and Chemical Properties**

|  |  |
|--|--|
| Physical State:                          | <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid |
| Appearance:                              | Liquid, clear.   |
| Odor:                                    | Pungent  |
| Odor Threshold:                          | No data  |
| pH:                                      | No data  |
| Melting Point:                           | No data  |
| Initial Boiling Point and Boiling Range: | No data  |
| Flash Point:                             | No data  |
| Specific Gravity:                        | 1.009 g/mL   |
| Evaporation Rate:                        | No data  |
| Flammability:                            | Not flammable  |
| Explosive Limits:                        | LEL: No data UEL: No data  |
| Vapor Pressure (vs. Air or mm Hg):       | No data  |
| Vapor Density (vs. Air = 1):             | No data  |
| Solubility in Water:                     | Fully soluble  |
| Partition Coefficient (n-octanol/water): | Log Pow: N/A   |
| Auto-ignition Temperature:               | No data  |
| Decomposition Temperature:               | No data  |
| Viscosity:                               | No data  |
| Percent Volatile:                        | No data  |

**10. Stability and Reactivity**

**Reactivity**

Stable material, hazardous polymerization will not occur.

**Chemical Stability:** Unstable  Stable

**Possibility of Hazardous Reactions:**

No data.

**Conditions To Avoid - Instability**

No data available

**Incompatibility - Materials To Avoid**

Strong bases, metals, alcohols, epoxides, steel, aluminum, oxidizing agents.

**Hazardous Decomposition or Byproducts**

Oxides of carbon, hydrogen fluoride

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**11. Toxicological Information**

**Route(s) of Entry:**

Inhalation? Yes

Skin? Yes

Eyes? Yes

Ingestion? Yes

**Acute Toxicity**

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/ eye irritation**

No data available

**Respiratory or skin sensitization**

No data available

**Germ Cell mutagenicity**

No data available

**Carcinogenicity**

**Product Name**

Trifluoroacetic acid

**CAS #**

76-05-1

**NTP**

Not listed

**IARC**

Not listed

**OSHA**

Not listed

**Reproductive toxicity**

No data available

**Specific target organ toxicity – single exposure (GHS)**

No data available

**Specific target organ toxicity – repeated exposure (GHS)**

No data available

**Aspiration hazard**

No

**Medical Conditions Generally Aggravated By Exposure**

No data available.

This product should be handled with the usual care when dealing with chemicals.

**12. Ecological Information**

**Ecotoxicity**

No data available.

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**13. Disposal Considerations**

**Waste Disposal Method**

Observe all federal, state and local regulations. For Contaminated Packaging - dispose of in compliance with regulations. Contact a licensed professional waste disposal service for proper disposal. Burn in a chemical incinerator equipped with afterburner and scrubber.

**14. Transport Information**

**LAND TRANSPORT (49CFR)**

UN Number - UN3265, Class 8, Packing Group II

Proper Shipping Name: Corrosive Liquid, Organic, N.O.S. (Trifluoroacetic acid solution)

Marine Pollutant: No

Poison Inhalation Hazard (PIH): No

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**AIR TRANSPORT (ICAO/IATA)**

UN Number - UN3265, Class 8, Packing Group II  
Proper Shipping Name: Corrosive Liquid, Organic, N.O.S. (Trifluoroacetic acid solution)

**MARINE TRANSPORT (IMDG/IMO)**

UN Number - UN3265, Class 8, Packing Group II, EMS F-A, S-B  
Proper Shipping Name: Corrosive Liquid, Organic, N.O.S. (Trifluoroacetic acid solution)  
Marine Pollutant: No

**15. Regulatory Information**

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

Not Listed

**SARA 311/312**

No SARA Hazards

**Massachusetts Right to Know Components**

No components are subject to the Massachusetts Right to Know Act

**Pennsylvania Right to Know Components**

|                      |           |
|----------------------|-----------|
| Water                | 7732-18-5 |
| Trifluoroacetic acid | 76-05-1   |

**New Jersey Right to Know Components**

|                      |           |
|----------------------|-----------|
| Water                | 7732-18-5 |
| Trifluoroacetic acid | 76-05-1   |

**California Prop. 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**16. Other Information**

For all other inquiries about this product contact Glen Research at 1-800-327-GLEN or 1-703-437-6191.

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