



# MATERIAL SAFETY DATA SHEET

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** 3% TFA / H<sub>2</sub>O

**Product No.:** 360892; 4401061N; 401061

**Trade Name(s):** TRIFLUOROACETIC ACID 3%; TRIFLUOROACETIC ACID, 450 ML

**Manufacturer Name:**

Applied Biosystems  
850 Lincoln Centre Drive  
Foster City, CA 94404  
USA  
Phone: (650) 638-5800 (USA)  
www.appliedbiosystems.com

**Emergency Telephone:**

1-800-424-9300 (NORTH AMERICA); +1-703-  
527-3887 (INTERNATIONAL, REVERSE  
CHARGES)

**Intended Use:** For Research Use Only, Not for  
Use in Diagnostic Procedures

## 2 HAZARDS IDENTIFICATION

**Emergency Overview**

**Physical State:** Liquid

**Color:** No data available.

**Odor:** No data available.

**DANGER!**

Causes skin, eye and digestive tract burns.

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled.

**Eye Contact:** Causes eye burns. Prolonged contact causes serious eye and tissue damage.

**Skin Contact:** Causes skin burns.

**Ingestion:** Causes digestive tract irritation. May cause burns in mucous membranes, throat, esophagus and stomach.

**Target Organ(s):** | Eye | Digestive tract | Skin | Respiratory system |

**Potential Physical / Chemical Effects:** This product is not flammable.

**OSHA Regulatory Status:** This product is hazardous according to OSHA 29CFR 1910.1200.

**Environment:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

**General Information:** The product contains: Reagent.

Chemical Name	CAS-No.	Concentration*
†Trifluoroacetic acid (TFA)	76-05-1	1 - 10%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

† This chemical is hazardous according to OSHA/WHMIS criteria.

### 4 FIRST AID MEASURES

**Inhalation:** Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.

**Eye Contact:** Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes. Make sure to remove any contact lenses from the eyes before rinsing.

**Skin Contact:** Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Chemical burns must be treated by a physician. Get medical attention immediately.

**Ingestion:** Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Obtain medical attention and take along these instructions.

### 5 FIRE-FIGHTING MEASURES

**Extinguishing Media:** Extinguish with foam, carbon dioxide, dry powder or water fog.

**Unsuitable Extinguishing Media:** Not applicable.

**Special Fire Fighting Procedures:** Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

**Unusual Fire & Explosion Hazards:** In case of fire, toxic and corrosive gases may be formed.

**Hazardous Combustion Products:** Carbon Oxides, Hydrofluoric acid

**Protective Measures:** Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Flammability Class:** NFPA Rating Fire = 0.

### 6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

**Spill Cleanup Methods:** Absorb spillage with suitable absorbent material. For waste disposal, see section 13 of the MSDS.

**Notification Procedures:** Inform authorities if large amounts are involved.

<b>7</b>	<b>HANDLING AND STORAGE</b>
----------	-----------------------------

**Handling:** Avoid all personal contact. Mechanical ventilation or local exhaust ventilation is recommended. Wear approved safety goggles. Wear protective gloves and appropriate clothing to prevent skin contact. Observe good industrial hygiene practices.

**Storage:** Store in closed original container in a dry place. Keep away from food, drink and animal feeding stuffs.

<b>8</b>	<b>EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
----------	--

**Exposure Limits:** No exposure limits noted for ingredient(s) on ACGIH, OSHA and WEEL lists. Consult Canadian Provincial Regulations and/or Mexican Regulations on exposure limits, if applicable.

**Engineering Controls:** Provide adequate general and local exhaust ventilation. Eye wash facilities and emergency shower must be available when handling this product.

**Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Seek advice from local supervisor.

**Eye Protection:** Wear safety glasses with side shields (or goggles) and a face shield.

**Hand Protection:** Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

**Skin Protection:** Wear suitable protective clothing. Protective clothing should be chemical/oil resistant.

**Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

<b>9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
----------	---

**Color:** No data available.

**Odor:** No data available.

**Odor Threshold:** No data available.

**Physical State:** Liquid

**pH:** No data available  
**Melting Point:** No data available.  
**Freezing Point:** No data available.  
**Boiling Point:** No data available.  
**Flash Point:** No data available.  
**Evaporation Rate:** No data available.  
**Flammability Limit - Upper (%):** No data available.  
**Flammability Limit - Lower (%):** No data available.  
**Vapor Pressure:** No data available.  
**Vapor Density (Air=1):** No data available.  
**Specific Gravity:** No data available.  
**Solubility in Water:** Soluble  
**Solubility (Other):** No data available.  
**Partition Coefficient (n-Octanol/water):** No data available.  
**Autoignition Temperature:** No data available.  
**Decomposition Temperature:** No data available.  
**Viscosity:** No data available.

<b>10</b>	<b>STABILITY AND REACTIVITY</b>
-----------	---------------------------------

**Stability:** This product is stable under expected conditions of use.

**Conditions to Avoid:** Heat

**Incompatible Materials:** Bases.

**Hazardous Decomposition Products:**

At Elevated Temperatures:	Carbon Oxides, Hydrofluoric acid
---------------------------	----------------------------------

<b>11</b>	<b>TOXICOLOGICAL INFORMATION</b>
-----------	----------------------------------

**Listed Carcinogens:** None.

**Product Information**

**Acute Toxicity:** Causes skin, eye and digestive tract burns.

**Chronic Toxicity:** No data available.

<b>12</b>	<b>ECOLOGICAL INFORMATION</b>
-----------	-------------------------------

**Ecotoxicity:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Mobility:** The product is water soluble and may spread in water systems.

**Persistence and Degradability:** No data available.

**Bioaccumulation Potential:** No data available.

<b>13</b>	<b>DISPOSAL CONSIDERATIONS</b>
-----------	--------------------------------

**General Information:** Dispose of waste and residues in accordance with local authority requirements.

**Disposal Methods:** No specific disposal method required.

**Container:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

<b>14</b>	<b>TRANSPORT INFORMATION</b>
-----------	------------------------------

**DOT**

**UN No.:** UN1760

**Proper Shipping Name:** Corrosive liquids, n.o.s. (Trifluoroacetic acid solution)

**Class:** 8

**Packing Group:** III

**Label(s):** 8

**TDG**

**UN No.:** UN1760

**Proper Shipping Name:** CORROSIVE LIQUID, N.O.S. (Trifluoroacetic acid solution)

**Class:** 8

**Packing Group:** III

**IATA**

**UN No.:** UN1760

**Proper Shipping Name:** Corrosive liquid, n.o.s. (Trifluoroacetic acid solution)

**Class:** 8

**Packing Group:** III

**Label(s):** Corrosive

**IMDG**

**UN No.:** UN1760

**Proper Shipping Name:** CORROSIVE LIQUID, N.O.S. (Trifluoroacetic acid solution)

**Class:** 8

**Packing Group:** III

**EmS No.:** F-A, S-B

<b>15</b>	<b>REGULATORY INFORMATION</b>
-----------	-------------------------------

**Canadian Controlled Products Regulations:** This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

**WHMIS Classification:** E

**Mexican Dangerous Statement:** This product is dangerous according to Mexican regulations.

**Inventory Status:** US TSCA inventory Status: All the components of this substance are listed on or are

exempt from the inventory. For purposes of 40 CFR 720.36, this product is for Research and Development (R&D) Use Only.

### **US Regulations**

**CERCLA Hazardous Substance List (40 CFR 302.4):** Not regulated.

### **SARA Title III**

**Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A):** Not regulated.

#### **Section 311/312 (40 CFR 370):**

☒ Acute (Immediate)    ☐ Chronic (Delayed)    ☐ Fire    ☐ Reactive    ☐ Pressure Generating

**Section 313 Toxic Release Inventory (40 CFR 372):** Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**  
Not regulated.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):** Not regulated.

**Drug Enforcement Act:** Not regulated.

### **TSCA:**

**TSCA Section 4(a) Final Test Rules & Testing Consent Orders:** Not regulated.

**TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs) (40CFR 721, Subpt. E):** Not regulated.

**TSCA Section 5(e) PMN-Substance Consent Orders:** Not regulated.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated.

### **State Regulations**

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**  
Not regulated.

**Massachusetts Right-To-Know List:** Not regulated.

**Michigan Critical Materials List (Michigan Natural Resources and Environmental Protection Act (Act. 451 of 1994)):** Not regulated.

**Minnesota Hazardous Substances List:** Not regulated.

**New Jersey Right-To-Know List:** Trifluoroacetic acid (TFA)

**Pennsylvania Right-To-Know List:** Not regulated.

**Rhode Island Right-To-Know List:** Not regulated.

<b>16</b>	<b>OTHER INFORMATION</b>
-----------	--------------------------

**HAZARD RATINGS**

	Health Hazard	Fire Hazard	Instability	Special Hazard
<b>NFPA</b>	3	0	0	--

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

NFPA Label colored diamond code: Blue - Health; Red - Flammability; Yellow - Instability; White - Special Hazards

	Health Hazard	Flammability	Physical Hazard	Personal Protection
<b>HMIS</b>	3	0	0	D

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Personal Protection codes: D - Face Shield, Gloves, Apron

HMIS Label colored bar code: Blue - Health; Red - Flammability; Orange - Physical Hazards; White - Special

**Disclaimer:** This MSDS has been prepared using information from sources considered technically reliable. It should not be relied upon as a product specification. The company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other chemical substances. Every user of the product is responsible for evaluating its own processes and conditions of use and selecting appropriate protective measures for employee exposure.