



## Safety Data Sheet

Material Name: Tetrafluoromethane

### \*\*\*Section 1 - IDENTIFICATION\*\*\*

#### Manufacturer Information

Electronic Fluorocarbons, LLC  
3266 Bergey Road  
Hatfield PA 19440

General Information: 215-443-9600  
Emergency #:1(800)-535-5053 (INFOTRAC)  
Outside the US: 1(352)-323-33500 (Call collect)

#### Product Identifier: HALOCARBON 14

#### Trade Names/Synonyms

TETRAFLUOROMETHANE; CARBON TETRAFLUORIDE; CARBON FLUORIDE (CF4); CARBON FLUORIDE; FC 14; PERFLUOROMETHANE; R 14; R 14 (REFRIGERANT); METHANE, TETRAFLUORO-; FREON 14; TETRAFLUOROCARBON; UN 1982; CF4; RTECS: FG4920000

#### Chemical Family

halogenated, aliphatic

#### Product Use

industrial

#### Restrictions on Use

none known

### \*\*\*Section 2 - HAZARDS IDENTIFICATION\*\*\*

#### GHS Classification

Gas under pressure, Liquefied gas

#### GHS LABEL ELEMENTS

#### Symbol(s)



#### Signal Word

WARNING

#### Hazard Statement(s)

Contains gas under pressure; may explode if heated

#### Precautionary Statement(s)

Protect from sunlight. Store in a well-ventilated place.

### \*\*\*Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS\*\*\*

CAS	Component	Percent
75-73-0	HALOCARBON 14	100.0

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## Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Fluorides.

### \*\*\*Section 4 - FIRST AID MEASURES\*\*\*

#### Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

#### Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

#### Eyes

Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

#### Ingestion

If a large amount is swallowed, get medical attention.

#### Note to Physicians

For inhalation, consider oxygen.

#### Symptoms: Immediate

suffocation

#### Symptoms: Delayed

No data available.

### \*\*\*Section 5 - FIRE FIGHTING MEASURES\*\*\*

See Section 9 for Flammability Properties

#### Specific Hazards Arising from the Chemical

Negligible fire hazard.

#### Extinguishing Media

carbon dioxide, regular dry chemical

Large fires: Use regular foam or flood with fine water spray.

#### Unsuitable Extinguishing Media

None known.

#### Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

#### Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Do not get water directly on material. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

#### Hazardous Combustion Products

**Combustion:** halogenated compounds, hydrogen fluoride

### \*\*\*Section 6 - ACCIDENTAL RELEASE MEASURES\*\*\*

#### Personal Precautions

Wear personal protective clothing and equipment, see Section 8.

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## Environmental Precautions

Avoid release to the environment.

## Methods for Containment

Reduce vapors with water spray. Eliminate all ignition sources if safe to do so. Keep unnecessary people away, isolate hazard area and deny entry.

## Cleanup Methods

Avoid heat, flames, sparks and other sources of ignition. Ventilate closed spaces before entering. Damaged cylinders should be handled only by specialists.

## \* \* \*Section 7 - HANDLING AND STORAGE\* \* \*

### Handling Procedures

Avoid breathing gas. Use only with adequate ventilation.

### Storage Procedures

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

**Incompatibilities** metals

## \* \* \*Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION\* \* \*

### Component Exposure Limits

#### HALOCARBON 14 (75-73-0)

**ACGIH:** 2.5 mg/m<sup>3</sup> TWA (as F, related to Fluorides)

**OSHA (Final):** 2.5 mg/m<sup>3</sup> TWA (as F); 2.5 mg/m<sup>3</sup> TWA (dust, related to Fluorides)

**OSHA (Vacated):** 2.5 mg/m<sup>3</sup> TWA (related to Fluorides)

### Component Biological Limit Values

#### HALOCARBON 14 (75-73-0)

**ACGIH:** 2 mg/L Medium: urine Time: prior to shift Parameter: Fluoride (background, nonspecific); 3 mg/L Medium: urine Time: end of shift Parameter: Fluoride (background, nonspecific, related to Fluorides)

### Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

#### Eyes/Face

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Protective Clothing

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

#### Glove Recommendations

Wear insulated gloves.

#### Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

**For Unknown Concentrations or Immediately Dangerous to Life or Health -**

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Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

## \*\*\*Section 9 - PHYSICAL AND CHEMICAL PROPERTIES\*\*\*

<b>Physical State:</b> Gas	<b>Appearance:</b> Not available
<b>Color:</b> colorless	<b>Physical Form:</b> gas
<b>Odor:</b> odorless	<b>Odor Threshold:</b> Not available
<b>pH:</b> Not available	<b>Melting/Freezing Point:</b> -187 °C
<b>Boiling Point:</b> -128 °C	<b>Decomposition:</b> Not available
<b>Evaporation Rate:</b> Not available	<b>Vapor Pressure:</b> 799 mmHg @ -127 °C
<b>Vapor Density (air = 1):</b> 3.05	<b>Specific Gravity (water=1):</b> 1.89 @ -183 °C
<b>Water Solubility:</b> 0.0015 % @ 25 °C	<b>Log KOW:</b> 1.18
<b>Auto Ignition:</b> Not available	<b>Viscosity:</b> 0.170 cP @-60 °C
<b>Molecular Weight:</b> 88.01	<b>Molecular Formula:</b> C-F4

## \*\*\*Section 10 - STABILITY AND REACTIVITY\*\*\*

### Chemical Stability

Stable at normal temperatures and pressure.

### Conditions to Avoid

Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

### Possibility of Hazardous Reactions

Will not polymerize.

### Incompatible Materials

metals

### Hazardous Decomposition

**Combustion:** halogenated compounds, hydrogen fluoride

## \*\*\*Section 11 - TOXICOLOGICAL INFORMATION\*\*\*

### Acute and Chronic Toxicity

#### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

#### RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

#### Immediate Effects

suffocation

#### Delayed Effects

No data available.

#### Irritation/Corrosivity Data

No animal testing data available for skin or eyes.

#### RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

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**Material Name:** HALOCARBON 14

**Respiratory Sensitizer**

No data available.

**Dermal Sensitizer**

No data available.

**Carcinogenicity**

**Component Carcinogenicity**

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**ACGIH:** A4 - Not Classifiable as a Human Carcinogen (related to Fluorides)

**Mutagenic Data**

No data available.

**Reproductive Effects Data**

No data available.

**Tumorigenic Data**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

simple asphyxiant

**Specific Target Organ Toxicity - Repeated Exposure**

No data available.

**Aspiration Hazard**

Not applicable.

**Medical Conditions Aggravated by Exposure**

None known.

**\*\*\*Section 12 - ECOLOGICAL INFORMATION\*\*\***

**Component Analysis - Aquatic Toxicity**

No LOEL ecotoxicity data are available for this product's components.

**Fish Toxicity**

No data available.

**Invertebrate Toxicity**

No data available.

**Algal Toxicity**

No data available.

**Persistence and Degradability**

No data available.

**Bioaccumulative Potential**

No data available.

**Mobility in Environmental Media**

No data available.

**\*\*\*Section 13 - DISPOSAL CONSIDERATIONS\*\*\***

**Disposal Methods**

Dispose in accordance with all applicable regulations.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.

**\*\*\*Section 14 - TRANSPORT INFORMATION\*\*\***

**US DOT Information**

**Shipping Name:** Tetrafluoromethane

**UN/NA #:** UN1982 **Hazard Class:** 2.2

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Required Label(s): 2.2

## IMDG Information

Shipping Name: Tetrafluoromethane

UN #: UN1982 Hazard Class: 2.2

## \*\*\*Section 15 - REGULATORY INFORMATION\*\*\*

### Component Analysis

#### U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

#### SARA 311/312 Hazardous Categories

Acute Health: Yes Chronic Health: No Fire: No Pressure: Yes Reactive: No

#### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
HALOCARBON 14 (related to: Fluorides)	75-73-0	Yes <sup>1</sup>	No	Yes <sup>1</sup>	Yes	Yes <sup>1</sup>

Not regulated under California Proposition 65

#### Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
HALOCARBON 14	75-73-0	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

## \*\*\*Section 16 - OTHER INFORMATION\*\*\*

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

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## Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

## Other Information

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