



## 3,4,5,6-Tetrafluorophthalic acid

### I. Chemical Product and Company Identification

Substance or preparation trade name: 3,4,5,6-Tetrafluorophthalic acid  
Synonyms: Tetrafluorophthalic acid  
Catalog No.: 368763  
CAS #: [652-03-9]  
Chemical Formula: C<sub>8</sub>H<sub>2</sub>F<sub>4</sub>O<sub>4</sub>  
Company/undertaking name & address: AK Scientific, Inc.  
30023 Ahern Ave.  
Union City, CA 94587  
In case of emergency, please contact: Phone: (510) 429-8835, Fax: (510) 429-8836

### II. Composition, Information on Ingredients

Full IUPAC name: 3,4,5,6-Tetrafluorophthalic acid  
CAS #: [652-03-9]  
Percent: 98%  
EINECS/ELINCS: 211-483-4

### III. Hazards Identification

Eye: May cause eye irritation  
Skin: May cause skin irritation. Harmful if absorbed through the skin  
Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed  
Inhalation: May cause respiratory tract irritation  
Systemic Exposure: May cause headache, nausea, disorientation, weakness, and convulsions if overexposure by ingestion or skin absorption, as poisoning symptoms.

### IV. First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.  
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.  
Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.  
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.  
Notes to Physician: Treat symptomatically and supportively.



## 3,4,5,6-Tetrafluorophthalic acid

### V. Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Flammability:	May be combustible at high temperature.
Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point:	Not available.
Auto-ignition:	Not available.
Lower Explosion Limit:	Not available.
Upper Explosion Limit:	Not available.
NFPA Rating (estimated):	Health: 1; Flammability: 1; Instability: 1

### VI. Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

### VII. Handling and Storage

Handling:	Wash thoroughly after handling. Keep away from heat. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes. Use only with adequate ventilation.
Storage:	Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

### VIII. Exposure Controls, Personal Protection

Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits	
AGGIH TLV:	Not available.
OSHA PEL:	Not available.
NIOSH REL:	Not available.
Personal Protection	
Eyes:	Wear chemical splash goggles.
Skin:	Wear appropriate protective gloves to prevent skin exposure.
Clothing:	Wear appropriate protective clothing to prevent skin exposure. Wear lab coat and boots.
Respirators:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Suggested protective clothing might not be sufficient. Consult a specialist BEFORE handling this product.



## 3,4,5,6-Tetrafluorophthalic acid

### IX. Physical and Chemical Properties

Physical State:	White to off-white to yellow crystalline powder
Molecular Formula:	C <sub>8</sub> H <sub>2</sub> F <sub>4</sub> O <sub>4</sub>
Molecular Weight:	238.0927
Odor:	Not available.
Taste:	Not available.
pH:	Not available.
Vapor Pressure:	Negligible.
Vapor Density:	Not available.
Evaporation Rate:	Negligible.
Viscosity:	Not available.
Boiling Point:	Not available.
Freezing/Melting Point:	102-112°C
Flash Point:	Not available.
Decomposition Temperature:	Not available.
Solubility:	Not available.
Specific Gravity/Density:	Not available.
Volatility:	Not available.
Refractive Index:	Not available.
Partition Coefficient:	Not available.

### X. Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Dust generation.
Incompatibilities with Other Materials:	Oxidizing agents.
Hazardous Decomposition Products:	Carbon oxides, hydrogen fluoride.
Hazardous Polymerization:	Will not occur.

### XI. Toxicology Information

RTECS#:	Not available.
LD50/LC50:	Not available.
Routes of Exposure:	Eye Contact. Ingestion. Inhalation.
Carcinogenicity:	Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology:	Not available.
Teratogenicity:	Not available.
Reproductive Effects:	Not available.
Mutagenicity:	Not available.
Neurotoxicity:	Not available.
Other Studies:	See actual entry in RTECS for complete information.
Acute toxic effects:	Safety: S26;S37/39 and Risk: R36/37/38 Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. <b>Follow safe industrial hygiene practice and always wear proper protective equipment when handling this compound.</b>



## 3,4,5,6-Tetrafluorophthalic acid

### XII. Ecological Information

Ecotoxicity: Not available.  
Environmental Fate: Not available.

### XIII. Disposal Conditions

Waste Disposal. Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.  
RCRA U-Series: None listed.

### XIV. Transport Information

Dot Classification: Not a DOT controlled material (United States)  
Proper Shipping Name: Not applicable.  
UN #: Not applicable.  
Packing Group (PG): Not applicable.  
Hazard Classification: Not applicable.

### XV. Regulatory Information

TSCA Chemical Inventory: This product is NOT on the EPA Toxic Substance Control Act (TSCA) inventory. The product is supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720 et sec. The health risks have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.

WHMIS Classification: Not available.  
EINECS # (EEC): 211-483-4  
EEC Risk statements: R36/37/38: Irritating to eyes, respiratory system and skin.  
Safety statements: S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39: Wear suitable gloves and eye/face protection.  
Hazard Symbols: Xi

### XVI. Additional Information

Version 2.  
Updated 10/21/2013

#### **Notice to Reader:**

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall AK Scientific be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if AK Scientific has been advised of the possibility of such damages.*