

Alfa Aesar
A Johnson Matthey Company

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News
Help/FAQs

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Item Details

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/12/2002

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1 Identification of substance:

o **Product details:**

o **Trade name:** Tetra-n-butylammonium hexafluorophosphate

o **Stock number:** A17196

o **Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

o **Information department:** Health, Safety and Environmental Department

o **Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

o **Chemical characterization:**

Description: (CAS#)

Tetra-n-butylammonium hexafluorophosphate
(CAS# 3109-63-5), 100%

o **Identification number(s):**

o **EINECS Number:** 221-472-6

3 Hazards identification

o **Hazard description:** Xn Harmful

o **Information pertaining to particular dangers for man and environment**

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.

4 First aid measures

o **After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

- **After skin contact**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
- **After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing** Seek immediate medical advice.

• **5 Fire fighting measures**

- **Suitable extinguishing agents**
Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
In case of fire, the following can be released:
Carbon monoxide (CO)
Hydrogen fluoride (HF)
Nitrogen oxides (NOx)
Phosphorus oxides
- **Protective equipment:**
Wear self-contained respirator.
Wear fully protective impervious suit.

• **6 Accidental release measures**

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Measures for environmental protection:**
Do not allow material to be released to the environment without proper governmental permits.
- **Measures for cleaning/collecting:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Additional information:**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

• **7 Handling and storage**

- **Handling**
- **Information for safe handling:**
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
- **Information about protection against explosions and fires:**
No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
No special requirements.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Store away from water/moisture.
- **Further information about storage conditions:**
This product is hygroscopic.
Protect from humidity and water.
Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

- o **Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Fluorides (as F)	
	mg/m3
ACGIH TLV	2.5
Austria TWA	2.5
Belgium TWA	2.5
Finland TWA	2.5
France TWA	2.5
Germany MAK	2.5
Hungary TWA	1; 2-STEL
Netherlands TWA	3.5
Norway TWA	0.6
Poland TWA	1; 3-STEL
Sweden NGV	2
Switzerland MAK-W	1.5
United Kingdom TWA	2.5
Russia TWA	2
Denmark TWA	2.5
USA PEL	2.5

- o **Additional information:** No data
- o **Personal protective equipment**
- o **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- o **Breathing equipment:**
Use suitable respirator when high concentrations are present.
- o **Protection of hands:** Impervious gloves
- o **Eye protection:**
Safety glasses
Tightly sealed goggles
Full face protection
- o **Body protection:** Protective work clothing.

9 Physical and chemical properties:

- o **Form:** Powder
- o **Color:** Off-white
- o **Odor:** Not determined

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
o Change in condition			
o Melting point/Melting range:	244-246	° C	
o Boiling point/Boiling range:	Not determined		
o Sublimation temperature / start:	Not determined		
o Flash point:	Not applicable		

- **Ignition temperature:** Not determined
- **Decomposition temperature:** Not determined
- **Danger of explosion:**
Product does not present an explosion hazard.
- **Explosion limits:**
- **Lower:** Not determined
- **Upper:** Not determined
- **Vapor pressure:** Not determined
- **Density:** Not determined
- **Solubility in / Miscibility with**
- **Water:** Insoluble

• **10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:**
Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided:**
Oxidizing agents
Water/moisture
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:**
Carbon monoxide and carbon dioxide
Hydrogen fluoride
Nitrogen oxides
Phosphorus oxides (e.g. P2O5)

• **11 Toxicological information**

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
Fluorides may cause salivation, nausea, vomiting, diarrhea and abdominal pain, followed by weakness, tremors, shallow respiration, convulsions and coma. May cause brain and kidney damage. Chronic fluoride poisoning can cause severe bone changes, loss of weight, anorexia, anemia and dental defects.
Inorganic phosphorus compounds may cause irritation and hemorrhages in the stomach as well as liver and kidney damage. Bone structure may be attacked, especially the jaw and teeth.
- **Additional toxicological information:**
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

• **12 Ecological information:**

- **General notes:**
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

- **Product:**
- **Recommendation**
Consult state, local or national regulations for proper disposal.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.

14 Transport information

- **DOT regulations:**
- **Hazard class:** 6.1
- **Identification number:** UN2811
- **Packing group:** III
- **Proper shipping name (technical name):**
Toxic solid, organic, n.o.s., tetra-n-butylammonium hexafluorophosphate
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** 6.1 Toxic substances
- **Item:** 25c
- **Danger code (Kemler):** 60
- **UN-Number:** 2811
- **Description of goods:** Toxic solid, organic, n.o.s., tetra-n-butylammonium hexafluorophosphate
- **Maritime transport IMDG:**
- **IMDG Class:** 6.1
- **UN Number:** 2811
- **Packaging group:** III
- **Proper shipping name:** Toxic solid, organic, n.o.s., tetra-n-butylammonium hexafluorophosphate
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 6.1
- **UN/ID Number:** 2811
- **Packaging group:** III
- **Proper shipping name:** Toxic solid, organic, n.o.s., tetra-n-butylammonium hexafluorophosphate

15 Regulations

- **Product related hazard informations:**
- **Hazard symbols:** Xn Harmful
- **Risk phrases:**
20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
36/37/38 Irritating to eyes, respiratory system and skin.
- **Safety phrases:**
9 Keep container in a well-ventilated place.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36 Wear suitable protective clothing.

- o **National regulations**

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

- o **Information about limitation of use:**

For use only by technically qualified individuals.

- **16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

- o **Department issuing MSDS:** Health, Safety and Environmental Department.
- o **Contact:** Darrell R. Sanders

Give Us a Call:

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