SAFETY DATA SHEET
p-Toluenesulfonic acid

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name p-Toluenesulfonic acid
Product number FT11451
Synonyms; trade names PTSA, ANASTROZOLE EP IMPURITY F
CAS number 104-15-4

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses Laboratory reagent. Manufacture of substances. Research and development.

1.3. Details of the supplier of the safety data sheet
Supplier Carbosynth Ltd
8&9 Old Station Business Park
Compton
Berkshire
RG20 6NE
UK
+44 1635 578444
+44 1635 579444
info@carbosynth.com

1.4. Emergency telephone number
Emergency telephone +44 7887 998634

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Health hazards Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335
Environmental hazards Not Classified

2.2. Label elements
Pictogram
![Signal word]

Signal word Danger
Hazard statements H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
p-Toluenesulfonic acid

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name p-Toluenesulfonic acid
CAS number 104-15-4
Chemical formula C₇H₈O₃S

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Get medical advice/attention if you feel unwell.

Inhalation

Remove person to fresh air and keep comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if symptoms are severe or persist.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.

Skin contact

Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.

Eye contact

Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

4.2. Most important symptoms and effects, both acute and delayed

General information

See Section 11 for additional information on health hazards.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of sulphur.
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**Special protective equipment for firefighters**
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter’s clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions**
Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust and vapours. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage.

**Environmental precautions**
Avoid discharge into drains or watercourses or onto the ground.

**Methods and material for containment and cleaning up**
Wear protective clothing as described in Section 8 of this safety data sheet. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into suitable waste disposal containers and seal securely. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

#### 6.4. Reference to other sections

**Reference to other sections**
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

### SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

**Usage precautions**
Wear protective clothing as described in Section 8 of this safety data sheet. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid generation and spreading of dust. Avoid contact with skin and eyes. Avoid inhalation of dust and vapours.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage precautions**
Keep container tightly closed. Store contents under inert gas. Store away from incompatible materials (see Section 10). Protect from moisture. Protect from light. Hygroscopic. Store at room temperature.

**7.3. Specific end use(s)**

**Specific end use(s)**
The identified uses for this product are detailed in Section 1.2.

### SECTION 8: Exposure Controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**
No exposure limits known for ingredient(s).

**8.2. Exposure controls**

**Appropriate engineering controls**
Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection**
Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.
p-Toluenesulfonic acid

Hand protection
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Particulate filter, type P3. Particulate filters should comply with European Standard EN143. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid.</td>
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<tr>
<td>Colour</td>
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<td>Odour</td>
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<td>Odour threshold</td>
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<td>pH</td>
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<td>Melting point</td>
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<td>Initial boiling point and range</td>
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<td>Flash point</td>
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<td>Evaporation rate</td>
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<td>Flammability (solid, gas)</td>
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<td>Upper/lower flammability or explosive limits</td>
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<td>Vapour pressure</td>
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<td>Relative density</td>
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<td>Solubility(ies)</td>
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<td>Partition coefficient</td>
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<td>Decomposition Temperature</td>
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<td>Explosive properties</td>
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<tr>
<td>Oxidising properties</td>
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</tbody>
</table>

9.2. Other information

Molecular weight
172.20
### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

**Reactivity**
No data available.

#### 10.2. Chemical stability

**Stability**
Stable under the prescribed storage conditions.

#### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions**
No data available.

#### 10.4. Conditions to avoid

**Conditions to avoid**
No data available.

#### 10.5. Incompatible materials

**Materials to avoid**
Strong oxidising agents. Strong alkalis.

#### 10.6. Hazardous decomposition products

**Hazardous decomposition products**
Oxides of carbon. Oxides of sulphur.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity - oral**
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

**Acute toxicity - dermal**
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

**Acute toxicity - inhalation**
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

**Skin corrosion/irritation**
Animal data
Skin Corr. 1B - H314 Causes severe burns.

**Serious eye damage/irritation**

**Respiratory sensitisation**
Based on available data the classification criteria are not met.

**Skin sensitisation**
Based on available data the classification criteria are not met.

**Germ cell mutagenicity**
Genotoxicity - in vitro
Based on available data the classification criteria are not met.

**Carcinogenicity**
Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**
Reproductive toxicity - fertility
Based on available data the classification criteria are not met.
**p-Toluenesulfonic acid**

**Reproductive toxicity - development**
Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

**STOT - single exposure**
STOT SE 3 - H335 May cause respiratory irritation.

**Target organs**
Respiratory system, lungs

**Specific target organ toxicity - repeated exposure**

**STOT - repeated exposure**
Not classified as a specific target organ toxicant after repeated exposure.

**Aspiration hazard**
Not relevant. Solid.

**General information**
Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

**Ingestion**
May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

**Skin contact**
Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

**Eye contact**
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

**Route of exposure**
Ingestion Inhalation Skin and/or eye contact

**Target organs**
Respiratory system, lungs

**SECTION 12: Ecological Information**

**Ecotoxicity**
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

**12.1. Toxicity**
Toxicity
Based on available data the classification criteria are not met.

**12.2. Persistence and degradability**

**Persistence and degradability**
The degradability of the product is not known.

**12.3. Bioaccumulative potential**

**Bioaccumulative potential**
No data available on bioaccumulation.

**Partition coefficient**
No data available.

**12.4. Mobility in soil**

**Mobility**
No data available.

**12.5. Results of PBT and vPvB assessment**

**Results of PBT and vPvB assessment**
No data available.

**12.6. Other adverse effects**

**Other adverse effects**
None known.
# p-Toluenesulfonic acid

## SECTION 13: Disposal considerations

13.1. Waste treatment methods

**General information**
Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

## SECTION 14: Transport information

14.1. UN number

| UN No. (ADR/RID) | 2585 |
| UN No. (IMDG) | 2585 |
| UN No. (ICAO) | 2585 |
| UN No. (ADN) | 2585 |

14.2. UN proper shipping name

| Proper shipping name (ADR/RID) | ARYLSULPHONIC ACIDS, SOLID |
| Proper shipping name (IMDG) | ARYLSULPHONIC ACIDS, SOLID |
| Proper shipping name (ICAO) | ARYLSULPHONIC ACIDS, SOLID |
| Proper shipping name (ADN) | ARYLSULPHONIC ACIDS, SOLID |

14.3. Transport hazard class(es)

| ADR/RID class | 8 |
| ADR/RID classification code | C4 |
| ADR/RID label | 8 |
| IMDG class | 8 |
| ICAO class/division | 8 |
| ADN class | 8 |

### Transport labels

14.4. Packing group

| ADR/RID packing group | III |
| IMDG packing group | III |
| ADN packing group | III |
| ICAO packing group | III |

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant No.

14.6. Special precautions for user
p-Toluenesulfonic acid

IMDG Code segregation group
1. Acids

EmS
F-A, S-B

ADR transport category
3

Emergency Action Code
2X

Hazard Identification Number (ADR/RID)
80

Tunnel restriction code
(E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations
Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

EU legislation

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
US - TSCA
Present.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50% of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Training advice
Only trained personnel should use this material.
p-Toluenesulfonic acid

Revision date 21/11/2017
Revision 1
SDS number 144926
Hazard statements in full
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.