



# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : P-Toluenesulfonyl Hydrazide  
CAS-No. : 1576-35-8  
Synonym: P-Toluenesulfonylhydrazide; Tosylhydrazide;TSH; Blowing Agent TSH  
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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $C_7H_{10}N_2O_2S$

CAS-No.	EC-No.	Index-No.	Concentration
P-Toluenesulfonyl Hydrazide 1576-35-8	216-407-3		>98%

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Flammable. Harmful if swallowed.The toxicological properties of this material have not been fully investigated.

### Potential Health Effects

#### Eye:

May cause eye irritation. May cause lacrimation (tearing), blurred vision, and photophobia. May cause chemical conjunctivitis and corneal damage.

#### Skin:

May cause skin irritation and possible burns.

#### Ingestion:

Harmful if swallowed. May cause irritation of the digestive tract.

The toxicological properties of this substance have not been fully investigated. May cause nausea, vomiting, abdominal pain, and increased salivation.

#### Inhalation:

May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Olfactory fatigue may occur. Can produce delayed pulmonary edema.

#### Chronic:

Effects may be delayed.

## 4. FIRST AID MEASURES

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:**

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:**

Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:**

Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:**

## 5. 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. Dust can be an explosion hazard when exposed to heat or flame. Flammable solid. May burn rapidly with flare burning effect. May re-ignite after fire is extinguished. Runoff from fire control or dilution water may cause pollution.

**Extinguishing Media:**

For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. For large fires, flood fire area with water from a distance.

## 6. 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. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

## 7. HANDLING AND STORAGE

**Handling:**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:**

Keep away from sources of ignition. 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. Flammables-area.

## 8. 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

CAS# 1576-35-8:

### Personal Protective Equipment

#### Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin:

Wear appropriate protective gloves to prevent skin exposure.

#### Clothing:

Wear appropriate protective clothing to prevent skin exposure.

#### 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Powder
<b>Color:</b>	white
<b>Odor:</b>	None reported.
<b>pH:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Boiling Point:</b>	Not available.
<b>Freezing/Melting Point:</b>	108.00 - 110.00°C
<b>Autoignition Temperature:</b>	Not applicable.
<b>Flash Point:</b>	60°C ( 140.00°F)
<b>Explosion Limits, lower:</b>	Not available.
<b>Explosion Limits, upper:</b>	Not available.
<b>Decomposition Temperature:</b>	60°C
<b>Solubility in water:</b>	
<b>Specific Gravity/Density:</b>	
<b>Molecular Formula:</b>	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub> O <sub>2</sub> S
<b>Molecular Weight:</b>	186.23

## 10. STABILITY AND REACTIVITY

### Chemical Stability:

Stable under normal temperatures and pressures.

### Conditions to Avoid:

Incompatible materials, ignition sources, dust generation, excessheat, strong oxidants.

### Incompatibilities with Other Materials:

Strong oxidizing agents.

**Hazardous Decomposition Products:**

Nitrogen oxides, carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide, nitrogen.

**Hazardous Polymerization:**

Has not been reported.

**11. TOXICOLOGICAL INFORMATION****RTECS#:**

CAS# 1576-35-8: MW0210000

**LD50/LC50:**

CAS# 1576-35-8: Oral, rat: LD50 = 283 mg/kg.

LD50- Lethal Dose, 50% Kill

**Carcinogenicity:**

P-Toluenesulfonhydrazide -

Not listed by ACGIH, IARC, or NTP.

**Other:**

See actual entry in RTECS for complete information.

**12. ECOLOGICAL INFORMATION**

None known.

**13. DISPOSAL CONSIDERATIONS**

Dispose of in a manner consistent with federal, state, and local regulations.

**14. TRANSPORT INFORMATION****US DOT**

Hazard class: 4.1

Packing group: II

ID number: UN 3226

Proper shipping name: SELF-REACTIVE SOLID TYPE D

**Canada TDG**

No information available.

**15. REGULATORY INFORMATION**

European/International Regulations

European Labeling in Accordance with EC Directives

**Hazard Symbols:**

Not available.

**Risk Phrases:**

R 10 Flammable.

R 22 Harmful if swallowed.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 28A After contact with skin, wash immediately with plenty of water.

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where

possible).

WGK (Water Danger/Protection)

CAS# 1576-35-8: 2

**Canada**

CAS# 1576-35-8 is listed on Canada's DSL List.

CAS# 1576-35-8 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

**TSCA**

CAS# 1576-35-8 is listed on the TSCA inventory.

**16. OTHER INFORMATION**

**Further information**

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