

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

<i>MSDS Name:</i>	N-tosyl-L-alanine
<i>Synonyms:</i>	(S)-2-(4-methylphenylsulfonamido)propanoic acid
<i>Company Identification:</i>	PI Chemicals Ltd. 5rd Floor, 88 Cailun Road Zhangjiang Hi-Tech Park Pudong New Area, Shanghai China, 201203
<i>Telephone Number:</i>	86-21-58953700
<i>Fax Number:</i>	86-21-58953701

Section 2 - Product Information

<i>Catalog Number:</i>	PI-90111
<i>CAS Number:</i>	21957-58-4
<i>MDL Number:</i>	Not available
<i>EC Number:</i>	Not available
<i>Purity:</i>	97%

Section 3 - Physical and Chemical Properties

<i>Physical state:</i>	Crystals/crystalline powder
<i>Color:</i>	White
<i>Odor:</i>	Not available
<i>Molecular Formula:</i>	C ₁₀ H ₁₃ NO ₄ S
<i>Molecular Weight:</i>	243.28
<i>Freezing/Melting Point:</i>	Not available
<i>Boiling Point:</i>	Not available
<i>Flash Point:</i>	Not available
<i>Autoignition Temperature:</i>	Not available
<i>Refractive Index (n_D20):</i>	Not available
<i>Density:</i>	Not available
<i>Decomposition Temperature:</i>	Not available
<i>Solubility:</i>	Not available

Section 4 - Hazards Identification

<i>Eye:</i>	Causes eye irritation.
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Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. Toxic if swallowed.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Section 5 - First Aid Measures

Eye: 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 and soap for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.
Ingestion: Get medical aid immediately. Wash mouth out with water.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Section 6 - Stability and Reactivity

Chemical Stability: Stable under recommended temperatures and pressures.
Materials to avoid: Strong oxidizing agents, Strong acids.
Conditions to Avoid: Incompatible materials.
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Sulfur oxides, Nitrogen oxides.
Hazardous Polymerization: Has not been reported.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required.
Storage: Store in cool place, Keep container tightly closed in a dry and well-ventilated place. Avoid sources of ignition.

Section 8 - Personal Protection

Eyes: Wear appropriate protective eyeglasses.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Use an approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Fire and Explosion Hazard Data

General Information: As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Section 10 - 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.

Section 11 - Toxicological Information

RTECS#: CAS# 21957-58-4: Not available.

LD50/LC50: RTECS: Not available.

Carcinogenicity: N-tosyl-L-alanine -Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Section 12 - Environmental information

Not available

Section 13 - Disposal Consideration

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

Section 14 - Transport Information

IATA: This substance is considered to be non-hazardous for transport.

IMO: This substance is considered to be non-hazardous for transport.

RID/ADR: This substance is considered to be non-hazardous for transport.

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Xi

Indication of Danger: Irritant

Risk Phrases:

R 36/37/38: Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36: Wear suitable protective clothing.

WGK (Water Danger/Protection)

CAS# 21957-58-4: Not available.

Canada

CAS# 21957-58-4: Not available.

US Federal

TSCA

CAS# 21957-58-4 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Additional Information

MSDS Creation Date: May 26, 2009

Update: April 20, 2010

The above information is believed to be accurate and represents the best knowledge available to us currently. 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 way shall PI Chemicals, 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, even if PI Chemicals has been advised of the possibility of such damages.