

PTSC

Intermediate

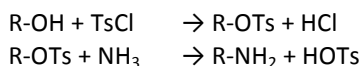
AXC.11.03

General Information

PTSC stands for para toluene sulfonylchloride also named tosylchloride or abbreviated TsCl. It serves as intermediate in pharmaceuticals and in various chemical synthesis.

Description and Application

PTSC is an intermediate in chemical and pharmaceutical synthesis. Among others it is an activation agent in the synthesis of organic compounds. One major application of PTSC is the tosylation of alcohols in order to activate the group for conversion at a later step in the synthesis. Through the use of PTSC an alcohol can be converted into an excellent leaving group, as depicted in below schema:



NH₃ is taken as example but it can be done with any organic nucleophile.

PTSC is also used to convert carboxylic acids into phenolic esters through the use of the weak nucleophiles like phenols.

Many pharmaceuticals are prepared with PTSC as activating agent as for example:

- Flupentixol (psychiatric drug)
- Thiometon (pesticide)
- Deltamethrine (pesticide)
- Diboc (protecting agent)
- Cefotaxime (antibiotic)
- MDMA (psychiatric drug)

Specifications

Active content:	≥ 99.5%
Water content:	≤ 0.1%
Crystallisation point:	≥ 66.9°C
Colour *):	≤ 40 Pt/Co
p-toluenesulfonic acid:	≤ 0.2%
o-toluenesulfonylchloride:	≤ 0.3%

*) 25 % solution in acetone

Physical Properties

Apparent bulk density:	660 - 730 kg/m ³
Appearance:	white crystalline powder
Boiling point (1.33 kPa):	135.5°C
Flash point (closed cup):	128°C

Toxicological information

Acute toxicity (oral):	LD50 rat > 4680 mg/kg
Genotoxicity (Amestest):	not mutagenic
Biotic degradation:	readily biodegradable

Packaging

- 25 kg polyethylene drums, 24 on a pallet.
- 100 kg polyethylene drums, 4 on a pallet.

Storage

Store in a cool dry place.

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