

# REAGENTS USED IN LIMIT TESTS AND THEIR USES

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Limit test for  
Chloride

Limit test for  
Sulphate

Limit test for  
Iron

Limit test for  
Lead

Limit test for  
Arsenic

**Dil. Nitric acid**

**0.1M Silver nitrate**

to make solution  
acidic and to  
maintain turbidity

forms precipitate  
with chloride ions

**Dilute HCL**

**Barium sulphate  
reagent**

To make solution  
acidic

Contains-BaCl<sub>2</sub>  
K<sub>2</sub>SO<sub>4</sub>  
Alcohol

Prevents super saturation

Increase sensitivity of test

forms precipitate with  
sulphate ions

**Citric acid**

**Thioglycollic acid**

**Ammonia**

To make solution  
Alkaline

Helps to reduce  
Iron[III] to Iron[II] &  
forms complex with  
iron

To prevent iron from  
forming complex  
with ammonia

**phenol red**

**Dithizone solution**

**Ammonium citrate,  
KCN, Hydroxylamine,  
hydrochloride**

Maintain optimum pH

Forms complex with  
lead

Used as Indicator to  
develop colour

**Mercuric chloride  
paper**

**Lead acetate**

**Stannous acid, KI,  
HCl & Zinc.**

to Reduce As<sup>5+</sup> to  
As<sup>3+</sup> & to make the  
solution acidic

to trap any H<sub>2</sub>S  
which may be  
evolved along with  
arsine

arsine reacts with  
mercuric chloride  
paper to give a  
yellow stain.