



# ALTRET Industries Private Limited

## Distribution ratio of Amines

For neutralizing Amines, the distribution ratio indicates the type of system in which the amine will work best

Neutralizing Inhibitor	Typical Distribution Ratio	Most Applicable Condensate System
<i>Morpholine</i>	0.4: 1	Short
<i>Diethylaminoethanol</i>	1.7: 1	Medium
<i>Cyclohexylamine</i>	4:1	Long or branched
<i>Ammonia</i>	10:1	Long or branched

**Table-2**

Optimal corrosion protection for steam and condensate lines requires combinations of various inhibitors like:

Component s	Action
Blended neutralizing amines	Low-pH protection throughout steam and condensate lines.
Blended neutralizing amines and catalyzed hydrazine	Low-pH protection throughout steam and condensate lines Oxygen-pitting protection Passivated-metal surfaces.
Blended neutralizing amines and ESA	Low-pH protection throughout steam and condensate lines Oxygen-pitting protection Better ESA distribution.

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Catalyzed hydrazine and ESA	Low-pH protection throughout steam and condensate lines Oxygen-pitting protection Passivated-metal surfaces Surface Preparation for ESA
Blended neutralizing amines, catalyzed hydrazine and ESA	All of the above advantages Backup protection.

**Table-3**

Various monitoring methods to ensure proper operation for each treatment option: -

Treatment	Most appropriate monitoring techniques	Backup Monitoring techniques
Catalyzed hydrazine	Hydrazine test	Oxygen concentration Corrosion -product concentration Corrosion coupons
Neutralizing inhibitors	pH	Corrosion-product concentration Corrosion coupons
Filming inhibitors	Corrosion coupons	Corrosion product concentration
Neutralizing and filming inhibitors	Corrosion coupons	pH Corrosion-product concentration
Neutralizing inhibitor and catalyzed hydrazine	pH Hydrazine test	Corrosion coupons
Catalyzed hydrazine and filming inhibitors	Corrosion coupons Hydrazine test	Corrosion-product concentration
Neutralizing and filming inhibitors plus catalyzed hydrazine	Corrosion coupons	Hydrazine test Corrosion-product concentration pH

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