

UREA SOLUTION

Technical
Information



Aqueous NO_x Abatement Solution - 32.5% & 40%

Product Description

The UREA SOLUTION is created by dissolution of the pure amide directly into clean condensate so there are no ions of any metals present. The lowest salt-out temperature possible for UREA solution is 12°F at a 32.5% UREA concentration. The 40% UREA solution has a salt-out temperature of 32°F.

Application Recommendations

- UREA solutions are marketed as ultra clean liquid fuel for catalytic abatement of nitrogen oxide emissions.
- The decomposition of UREA solution into ammonia, carbon dioxide and steam provides a safe way to produce the ammonia fuel source. There is no need to have containers of compressed liquid ammonia in remote locations that are difficult to secure.
- Consult your Dyno Nobel representative for additional information.

Transportation, Storage and Handling

- The transport of UREA solution does not require a DOT placard.
- UREA solution will decompose into ammonia, carbon dioxide at 275°F.
- **ALWAYS** thoroughly wash vessels containing UREA solution before attempting repairs requiring welding.

Hazardous Shipping Description

- There are no DOT restrictions, other than weight, to transport UREA solutions.
- Consult MSDS #1135 for more specific and comprehensive information about chemical hazards.

Properties

MSDS
#1135

| | | |
|---|----------------|----------------|
| UREA % by weight | 32.0 to 33.0 | 39.5 to 40.5 |
| Water % by weight maximum | 67.0 to 68.0 | 59.5 to 60.5 |
| Biuret % by weight maximum | 0.3 | 0.3 |
| Free Ammonia % by weight maximum | 0.1 | 0.1 |
| Carbonate (as CO ₂) % by weight | 0.1 | 0.1 |
| pH | 8.0 – 10.0 | 8.0 – 10.0 |
| Salt-out Temperature (open vessel) | ~12°F | ~32°F |
| Storage Temperature | 40 to 80°F | 40 to 80°F |
| Weight @ 68°F | 9.1 lbs/gallon | 9.4 lbs/gallon |
| Calcium maximum | 0.5 ppm | 0.5 ppm |
| Chromium maximum | 0.5 ppm | 0.5 ppm |
| Copper maximum | 0.5 ppm | 0.5 ppm |
| Iron maximum | 0.5 ppm | 0.5 ppm |
| Magnesium maximum | 0.5 ppm | 0.5 ppm |
| Nickel maximum | 0.5 ppm | 0.5 ppm |
| Phosphorus maximum | 0.5 ppm | 0.5 ppm |
| Potassium maximum | 0.5 ppm | 0.5 ppm |
| Silica maximum | 1.0 ppm | 1.0 ppm |
| Sodium maximum | 0.5 ppm | 0.5 ppm |
| Zinc maximum | 0.5 ppm | 0.5 ppm |

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