Intermediates

Glyoxal from BASF

As an $\text{H}_2\text{S}$ scavenger
Glyoxal (40%)

Glyoxal as an H₂S scavenger

- Glyoxal is an efficient solution for sulfur scavenging applications.
- For example as a scavenger for sulfur compounds like H₂S in gas sweetening.
- Glyoxal shows many benefits against the current market standard triazine.
Glyoxal vs. triazine

- Glyoxal can be **four times more efficient** on a weight by weight basis at typical sulfide levels in comparison to typical triazine.

- Glyoxal is effective and can be applied in neutral, acidic, and alkaline conditions (pH environment), where triazine is effective and stable only under alkaline conditions.

- Glyoxal can be efficiently **used at acidic pH** where it would be anticipated that an alkaline triazine may cause carbonate scale formation.

- Glyoxal displays a **continuous scavenging activity** over longer time periods in comparison to triazine.

- **No precipitation products** from the sulfide glyoxal reaction were observed during testing under the experimental conditions, whereas triazine products have documented cases of precipitation being formed.
Glyoxal (40%)

Glyoxal vs. triazine

- Glyoxal has very good **temperature stability**; there is no decomposition until temperatures exceed 150 degrees C (onset of exothernal reaction).

- MEA triazine when diluted in water (pH below neutral) produces an **increased quantity of formaldehyde as a by product**, where glyoxal does not.

- Glyoxal is **readily biodegradable**. Effluent discharge into sewage treatment plants has shown that concentrations of up to 1000mg/l are unlikely to disturb the efficacy of activated sludge. In acute studies, glyoxal is not hazardous to algae, daphnia or fish. A low octanol / water coefficient also indicates a low potential to bio-accumulate.

- **Triazine must be treated** before it is discharged into waterways because it is harmful to fish and daphnia.
BASF Intermediates

Glyoxal (40%)

Sulfide scavenger at 50 ppm, 50 deg C, pH 5.0
BASF Intermediates

Glyoxal (40%)

Sulfide scavenger at 50 ppm, 50 deg C, pH 7.5

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**Graph:***

- **Control bottle**
- **375 ppm - glyoxal**
- **1694 ppm - triazine**

**Legend:**

- **1/2 hour**
- **2 hours**

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BASF Intermediates

Glyoxal (40%)

Sulfide scavenger at 50 ppm, 75 deg C, pH 5.0

1/2 hour

Control bottle: 375 ppm - glyoxal
1694 ppm - triazine

2 hours

Control bottle: 375 ppm - glyoxal
1694 ppm - triazine
For further information, please contact us:

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or visit our website:

http://www.intermediates.basf.com/chemicals/glyoxal/index