Vilsmeier Reagent

N,N-Dimethylchloromethyliminium Chloride
DMF-COCl₂ Vilsmeier-Haack Reagent

Molecular Weight = 128
CAS #3724-43-4

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Assay</th>
<th>DMF</th>
<th>Fe (ppm)</th>
<th>Ni (ppm)</th>
<th>Cr (ppm)</th>
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</thead>
<tbody>
<tr>
<td>95% min.</td>
<td>5% max.</td>
<td>12 max.</td>
<td>3 max.</td>
<td>2 max.</td>
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PHYSICAL PROPERTIES

Appearance: White Crystalline Solid
FW: 128.00
MP: 139 - 141°C
Solubility: 26% in Chloroform

Vapor Pressure: 1 hPa @ 20°C
Bulk Density: 0.756 kg/m³
Flash Point: > 200°F / > 93°C

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APPLICATIONS

Vilsmeier Reagent is a stable, free-flowing, crystalline solid prepared from dimethylformamide (DMF) and carbonyl dichloride (phosgene). The use of VanDeMark's pre-formed Vilsmeier Reagent eliminates the need of the user to handle highly toxic phosgene, thionyl chloride, phosphoryl chloride or oxalyl chloride to generate a reagent.

Vilsmeier Reagent has been found to be useful in dehydration, chlorination, and formylation reactions. VanDeMark's Vilsmeier Reagent is one of the purest that can be produced, reducing by-product formation in reactions and simplifying workup. The overall utility of Vilsmeier Reagents in effecting chemical transformations can be found in the references below. The effectiveness of the (chloromethylene) dimethylammonium chloride in any specific reaction in which a Vilsmeier Reagent is used must be determined beforehand, as its reactivity can vary.

SAFETY AND HANDLING

Vilsmeier Reagent is classified as a Corrosive Solid, NOS. The product is stable under normal conditions, but will decompose at elevated temperatures and will react violently with water, emitting toxic hydrogen chloride fumes. An organic vapor respirator, approved for use with dimethylformamide, and with a high efficiency particulate filter must be worn when handling this product to provide respiratory protection. Also, acid resistant clothing, gloves, boots and goggles must be worn to provide body protection. Consult the MSDS for more information.

FIRST AID

Seek immediate medical attention. Show MSDS to doctor.

Eye Contact: Rinse immediately with copious amounts of water for at least 15 minutes. Do not rub.

Skin Contact: Wash immediately with soap and water, removing all contaminated clothing and shoes.

REFERENCES

2. Hemminki, T, DE Patent 10200503617
5. Maier, T., Beckem, T., Bent T., Gommich, Petra., Dalwisher F., Vennemann, M., WO Patent 2005067724
10. Steenovar, B., Nair, M.C.G., US Patent 5891775

EMERGENCY RESPONSE

*Contact CHEMTREC 1-800-424-9300 in case of a transportation accident.
*Contact VanDeMark 1-716-433-6764 for all other incidents.

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