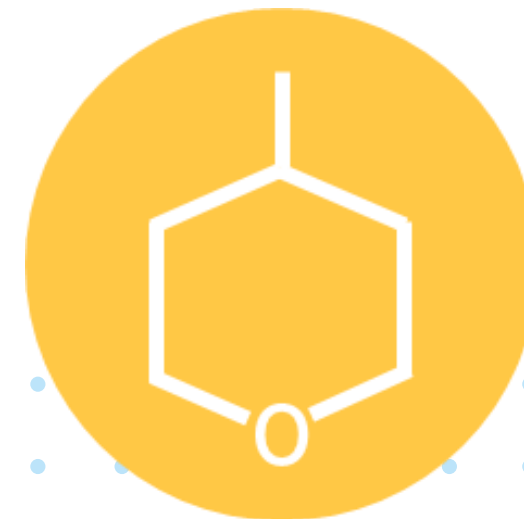


Innovative and versatile reaction solvent
manufactured by Kuraray



MTHP 4-Methyltetrahydropyran

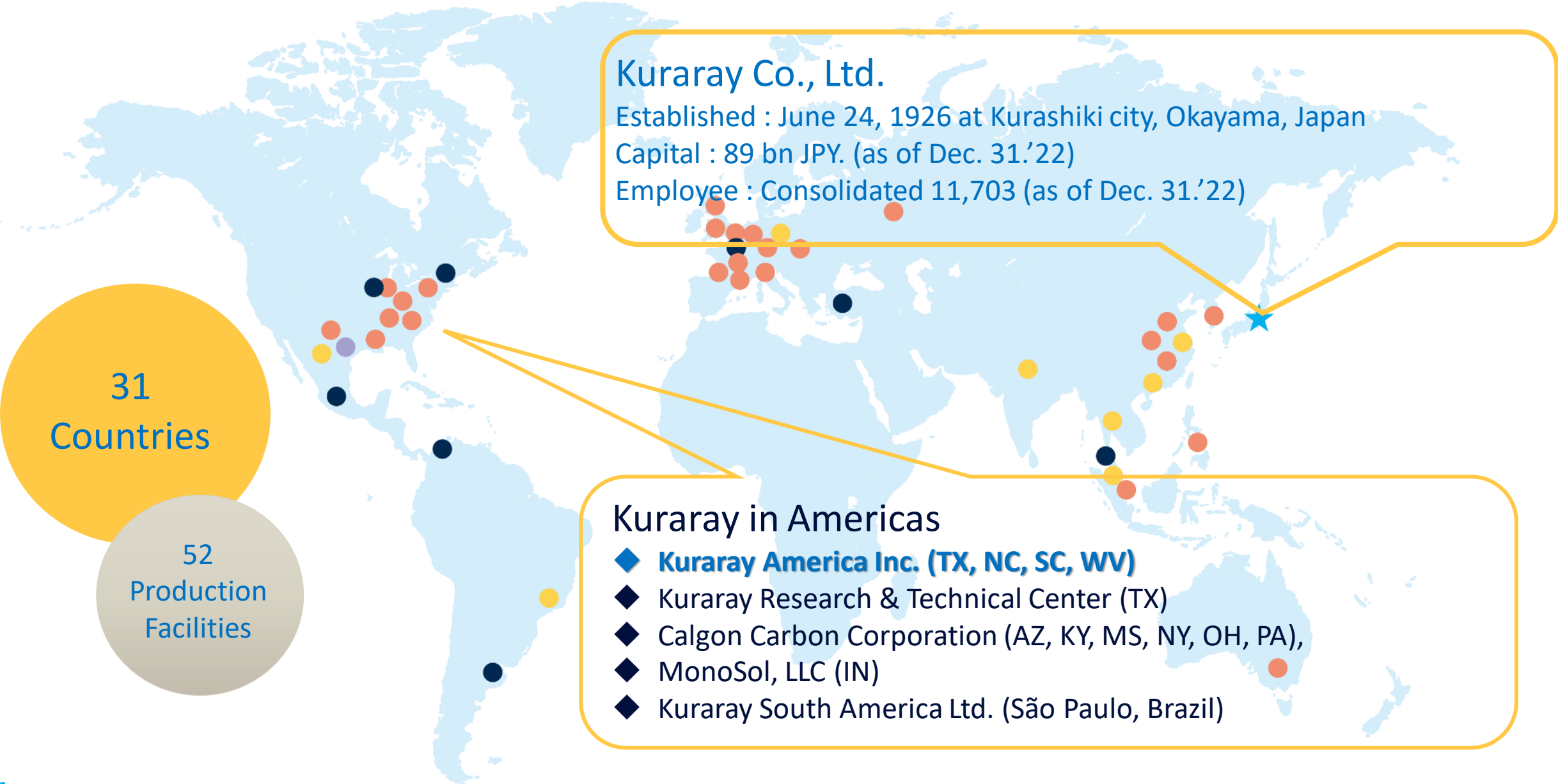
Kuraray America, Inc.
Advanced Chemicals
2/ 19/ 2024

kuraray



Kurararay at a glance

Kuraray's Global Presence



Kuraray Co., Ltd.

Established : June 24, 1926 at Kurashiki city, Okayama, Japan
Capital : 89 bn JPY. (as of Dec. 31.'22)
Employee : Consolidated 11,703 (as of Dec. 31.'22)

31
Countries

52
Production
Facilities

Kuraray in Americas

- ◆ Kuraray America Inc. (TX, NC, SC, WV)
- ◆ Kuraray Research & Technical Center (TX)
- ◆ Calgon Carbon Corporation (AZ, KY, MS, NY, OH, PA),
- ◆ MonoSol, LLC (IN)
- ◆ Kuraray South America Ltd. (São Paulo, Brazil)

MTHP - 4-Methyltetrahydropyran

General Information

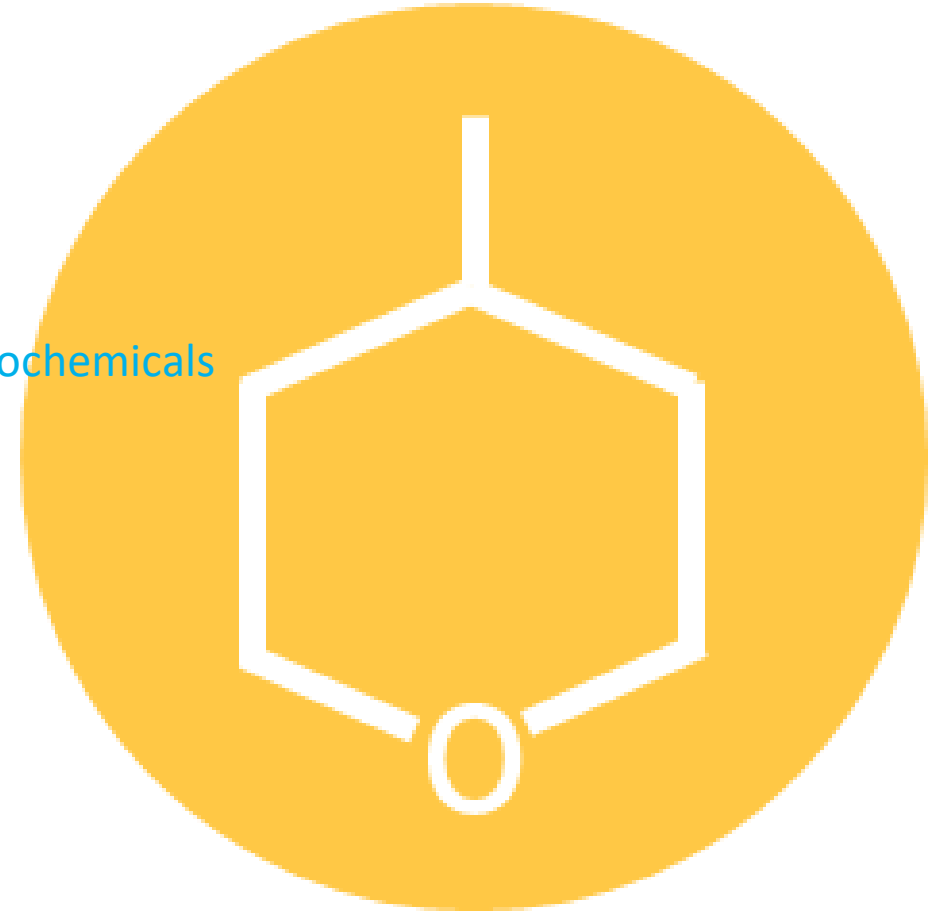
IU PAC Name : 4-Methyltetrahydro-2H-pyran

Molecular Weight : 100.16 (C₆H₁₂O)

CAS No. : 4717-96-8

Origin : Synthesized chemically from petrochemicals

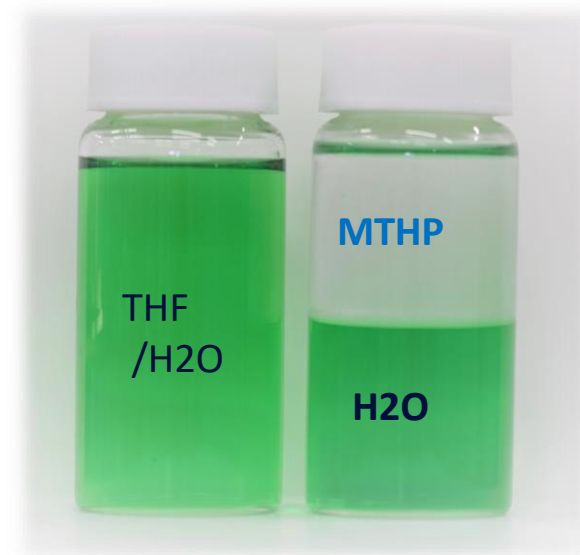
Country of origin : Japan



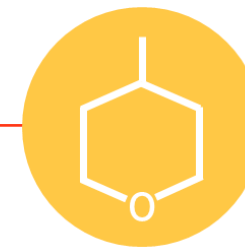
Features of MTHP for organic reactions



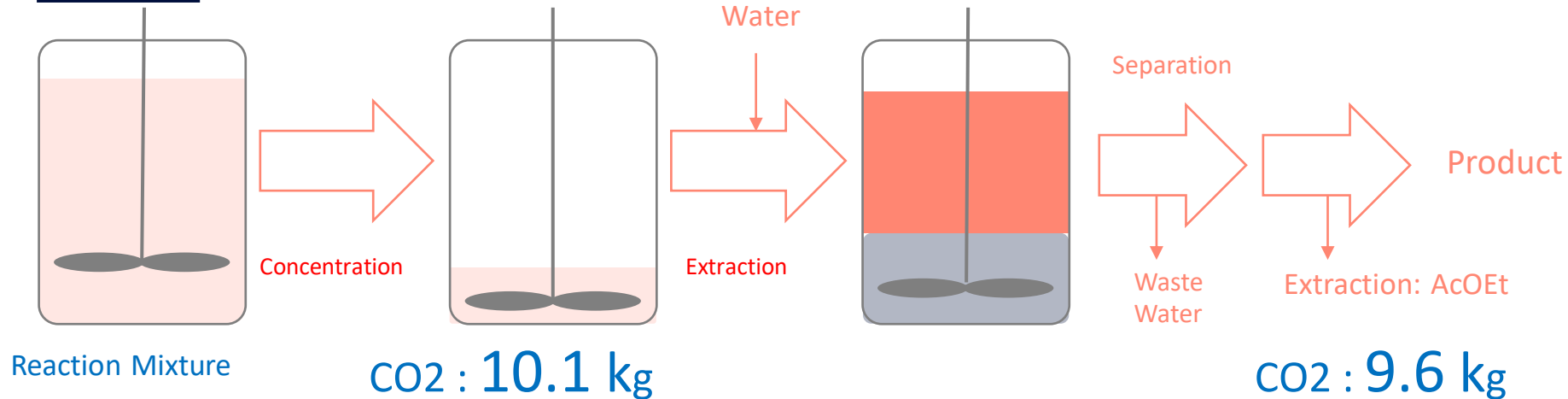
- ◆ Compatibility with chemicals similar to THF
 - ◆ Applicable to various organic reactions such as Grignard, Organometallic, Suzuki Coupling etc.
- ◆ **MTHP phase separates from water**
 - ◆ Simplify extraction process
 - ◆ Easy to recover and reuse
- ◆ More stable than THF
 - ◆ Low peroxide formation
 - ◆ Stable in acids/alkalis, as well as in n-BuLi



Example of Process Improvement and reduction of Carbon footprint

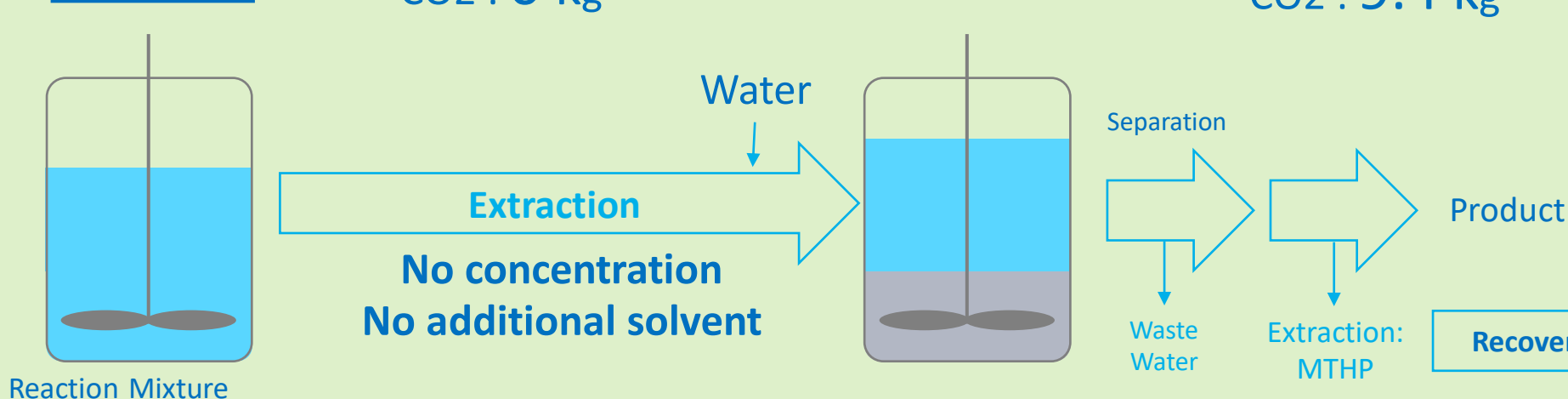


THF case



Total CO₂:
19.7 kg

MTHP case



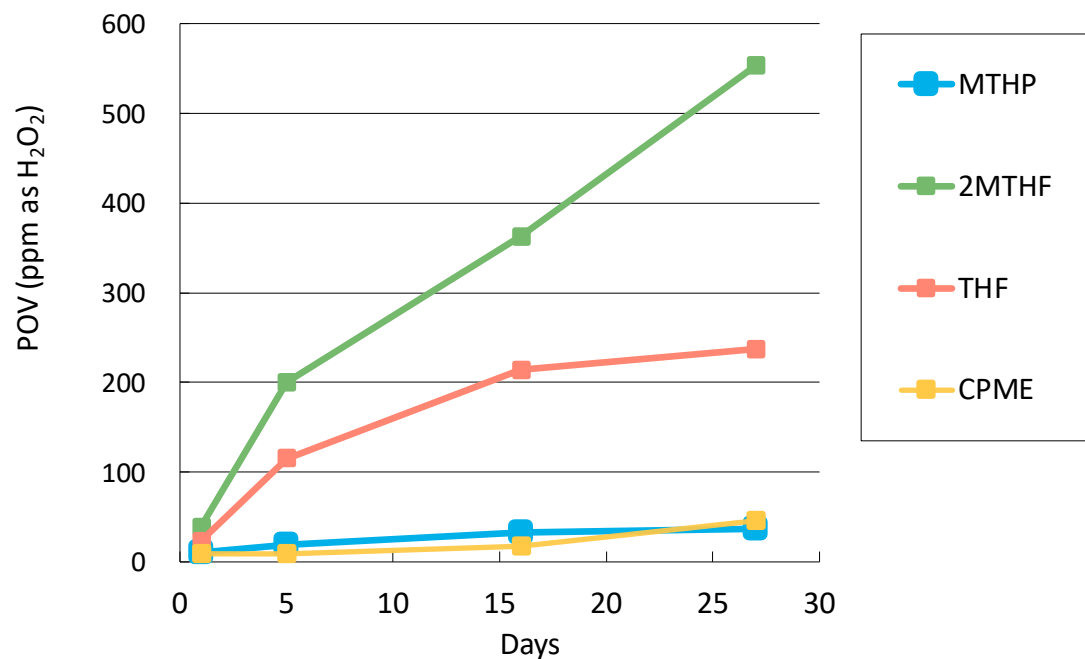
Total CO₂ :
9.4 kg

-52%

Stability data



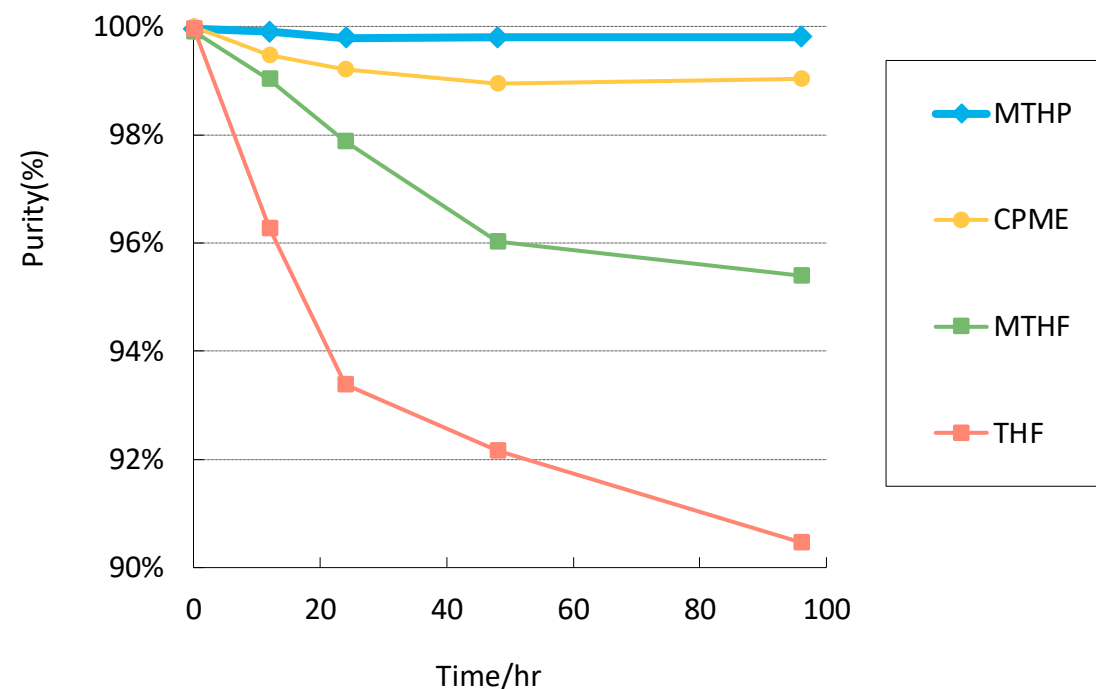
Autoxidation stability



< Test condition >

- Under air at 25°C, without stabilizer.
- POV is measured by Iodometry method.

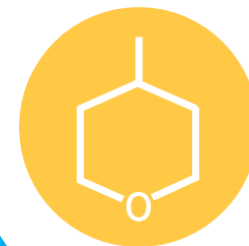
Acid condition : 20%HCl/Solvent



< Test condition >

- 20%HCl/Solvent=1:1(wt.) @50°C

Reaction Examples

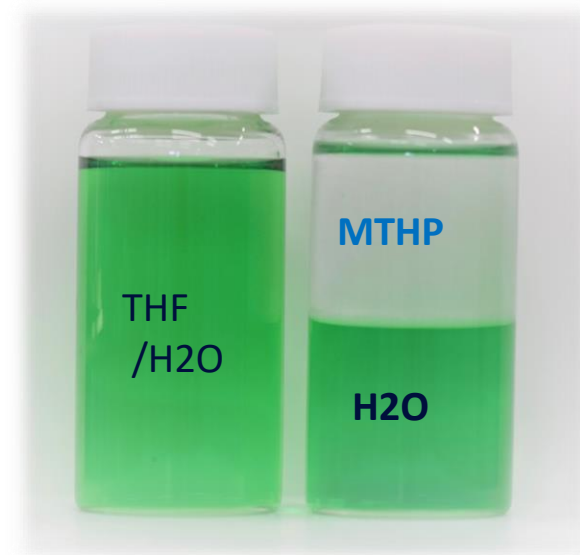


- **Grignard reaction**
- **Organometallic reaction**
- **Wittig reaction**
- **Suzuki-Miyaura coupling**
- Dehydration condensation : esterification, acetalization
- Reduction reaction
- Oxidation reaction
- Olefin metathesis
- Halogenation, Dehalogenation
- Michael addition
- Protecting group

Features of MTHP

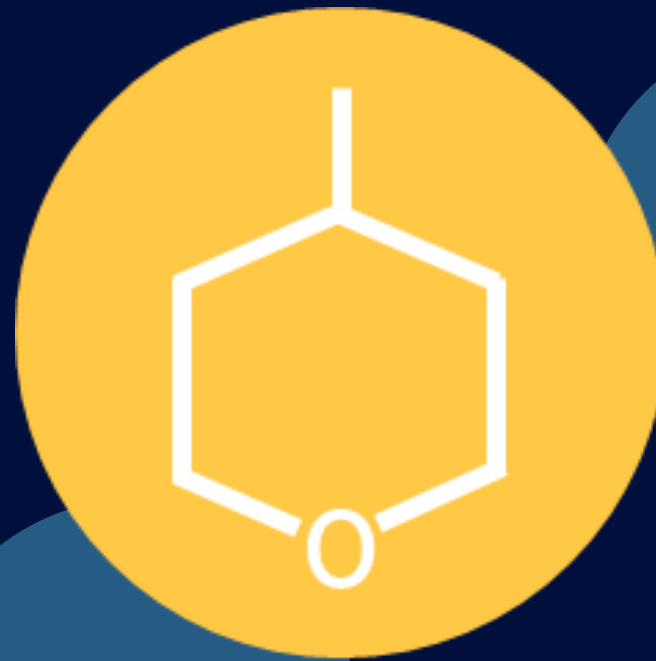


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Thanks & Contact us at Booth #920

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