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Catalog # 19-1060 CALLERY™ Potassium *tert*-amylate, 15% solution in cyclohexane

Potassium tertiary amylate (KTA) is also known as potassium *t*-pentoxide or potassium *t*-amyloxide. The high hydrocarbon solubility of potassium *tert*-amylate gives it an advantage over sodium and potassium alkoxides derived from tert-butanol or primary alcohols.

Technical Notes:

- Catalyst Preparation: Used to convert imidazolium salts to free carbenes in the synthetic process of ruthenium olefin metathesis catalysts under mild reaction conditions
- 2. **Asymmetric Epoxidation**: Base additive used in Jacobsen asymmetric epoxidation and the Sharpless asymmetric dihydroxylation/cyclization for the preparation of chiral epoxides
- 3. Allylic Substitutions: Base additive used in iron-catalyzed allylic substitutions.
- 4. **Direct Oxidation**: Used in transition metal free, direct oxidation of 2-, 3-, and 4-picoline to the corresponding carboxylic acid using oxygen or air under continuous flow conditions.
- Aldol Reaction: Used for the production process of HIV NNRTI doravirine via continuous flow aldol reaction.
- Synthesis of Tertiary Difluoroketones: Catalyst for the direct and chemoselective synthesis of tertiary difluoroketones via Weinreb amide homologation with a CHF₂-carbene equivalen.
- Redox Cyclization: Used in the redox cyclization of amides and sulfonamides with nitrous oxide (N2O) for the direct synthesis of heterocycles.

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$$R = \frac{1. \text{ KO'Am, TEA, TFAA}}{\text{OEt}} = \frac{1. \text{ KO'Am, TEA, TFAA}}{\text{OEt}} = \frac{1. \text{ KO'Am, TEA, TFAA}}{\text{Note}} = \frac{1. \text{ KO'A$$

References:

- 1. Organometallics 2002, 21, 442.
- 2. Org. Proc. Res. Dev. 2003, 7, 821.
- Angew. Chem. Int. Ed. 2008, 47, 198.
 Chem. Commun., 2012, 48, 2086.
- 5. Org. Lett. 2015, 17, 1353.
- Org. Lett. 2019, 21, 8261.
 Org. Lett. 2020, 22, 2017.