

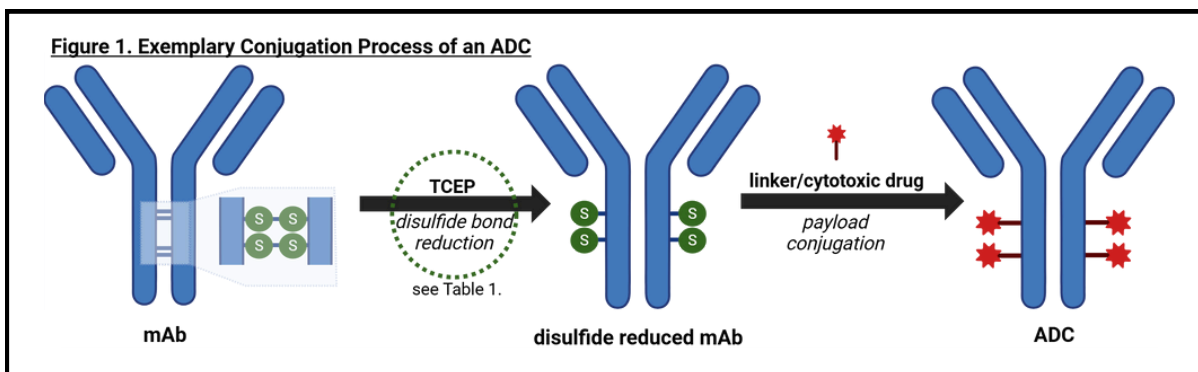


From Bench to Batch: High Purity Reagents Built for ADC Success

Reduce Variability. Increase Confidence.

Antibody-drug conjugates (ADCs) are transforming targeted therapy—turning the “magic bullet” concept into clinical reality. But building a reliable ADC starts with control at the molecular level. Cysteine reduction is a preferred approach for achieving consistent, high-purity conjugation and a defined drug-to-antibody ratio (DAR).

That’s where GMP-grade water-soluble phosphines (WSPs) cysteine reducing agents stand out. Compared to traditional agents, they offer cleaner reactions, greater aqueous stability, and the reliability needed to scale with confidence—all while supporting your regulatory path.



CHOOSING cGMP MATERIAL FOR EVERY STEP

Process-related impurities, such as residual solvents or reducing agents are considered potential critical quality attributes in the ADC drug substance manufacturing. Every additional component added to the process complicates existing platform control strategies for the final product. By utilizing cGMP reducing agents for cysteine reduction and conjugation, additional impurities that come from off the shelf reagents are mitigated and eliminated.

Table 1. Water Soluble S-S Reducing Agent Comparison

	TCEP	TPPTS	DTT
Water Solubility	✓ Excellent	✓ Excellent	✗ Moderate
Water Stability	✓ Good	✓ Excellent	✗ Poor
Effective pH Range	✓ Broad (pH 5-9)	✓ Broad (pH 5-9)	✗ Narrow (pH 7-8)
Shelf Life	✓ Good	✓ Excellent	✗ Poor
Odor	✓ None	✓ None	✗ Sulfur Smell
Reduction Potential	✓ Strong	✗ Moderate	✓ Very Strong

Table 2. Ascensus GMP Peptide and Protein Conjugation Reagents

Short Name/CAS #	Material	Grade	Part #
TCEP 51805-45-9	Tris(2-carboxyethyl)phosphine, hydrochloride	Research GMP	15-7400 98-7400
TPPTS 3995-70-0	Tris(3-sulfonatophenyl)phosphine hydrate, sodium salt	Research GMP	15-8013 98-8013
TPPDS-K 308103-66-4	Bis(p-sulfonatophenyl)phenylphosphine dihydrate dipotassium salt	Research GMP	15-0463 98-0463
THPP 4706-17-6	Tris(3-hydroxypropyl)phosphine	Research GMP	15-6375 98-6375

To request a sample or quote or to learn more, contact us at ask@ascensusspecialties.com



Headquartered in Bellevue, WA, Ascensus Specialties is a global leader in catalysts, ligands, building blocks, and specialty reagents. Our 60+ years of synthetic knowhow, allows us to bring additional value to our clients through our custom synthesis and GMP services. From world-class manufacturing facilities in Elma, WA, Evans City, PA, Newburyport, MA, and Cambridge, UK, Ascensus has a global reach that ensures our clients can consistently manufacture their products to the highest standards.



THE ASCENSUS ADVANTAGE

60+ Years of Experience

Custom-Tailored Purity and Impurity Profiles

Commercial GMP Capabilities

Dependable Global Supply Chain

Process Control and Robustness

Customer Focused Service



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