



ACCELERATING
PHARMA &
LIFE SCIENCE

DeTrityl® Ultrapure

**Premium-grade dichloroacetic acid
for high-yield & pure oligonucleotide synthesis**

The most common method for manufacturing oligonucleotides is the phosphoramidite route: a solid-phase synthesis that links individual nucleotides sequentially through a reaction cycle consisting of detritylation, coupling, capping, and oxidation or sulfurization.

To ensure directional, sequence-controlled synthesis, the 5'-hydroxyl group of each nucleoside is temporarily protected by a 4,4'-dimethoxytrityl (DMT) group. At the start of each new cycle, this protecting group is removed using dichloroacetic acid (DCA) to free the 5'-position for the next coupling step.

A purpose-built manufacturing route

Drawing on decades of manufacturing experience, the CABB Group has developed a proprietary catalyst and process technology that inherently avoids the formation of critical impurities, rather than relying on additional purification of a compromised feedstock. DeTrityl® Ultrapure meets the strictest oligonucleotide purity requirements, backed by rigorous controls across storage handling, and transport.

European production built for reliability

The CABB Group is the only European producer of premium-grade DCA in high volumes. Two backward-integrated manufacturing sites in Germany and Switzerland strengthen security of supply and scalability. Full ownership of the multistep process, from raw material to intermediate to DeTrityl® Ultrapure, under one quality system provides deep process understanding, complete traceability and audit-ready transparency.

Your benefits with DeTrityl® Ultrapure

- High DMT removal efficiency, delivering high yields in oligonucleotide synthesis
- High DCA assay of > 99.2%
- Inherently low levels of chloral hydrate, glyoxylic acid, free chloride and formaldehyde
- ISO 9001, ISO 14001 and ISO 50001 certification
- Supply security: two backward-integrated manufacturing sites for DeTrityl® Ultrapure in Germany and Switzerland
- The CABB Group is the only European producer of premium-grade dichloroacetic acid in high volumes
- The CABB Group's manufacturing sites approved by international oligo CDMOs
- +50 years of DCA manufacturing experience, with 20 years of targeted development for oligonucleotide synthesis

The CABB Group's DeTrityl® Ultrapure delivers higher purity and oligonucleotide yields, supporting a cost-effective manufacturing process.

Impurities in low-quality DCA, including chloral hydrate, glyoxylic acid, free chloride and formaldehyde, accumulate across synthesis cycles, producing truncated and depurinated sequences such as n-1 and n-2 species that are difficult to remove downstream and drive-up purification costs. The longer the target oligonucleotide, the greater the impact.

DeTrityl® Ultrapure consistently delivers lower levels of critical impurities across the full n-1 to n-15 range; with n-1, n-2 and depurination products significantly reduced compared to Asian DCA grades. It also requires up to 8% less DCA volume to complete detritylation, reducing acid contact time and limiting side reactions.¹ This is why high-purity DCA is essential for cost-effective production of oligonucleotide APIs.

Delivery specifications

Product: DeTrityl® Ultrapure
(dichloroacetic acid)

Formula: Cl₂CHCOOH

Molecular weight: 128.94 g/mol

CAS no.: 79-43-6

UN no.: 1764

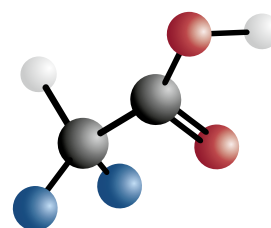
PCF: 3.94 kg CO₂e/kg

EINECS no.: 201-207-0

Country of origin: Germany and Switzerland

Shelf life: 360 days

Packaging units: 40 kg, 75 kg,
250 kg steel drum with PE lining



Quality characteristic	Unit	Target value	Method	Certificate ²
Appearance	-	Clear, colorless to slightly yellowish liquid	visual	
Dichloroacetic acid (DCA)	%(w/w)	min. 99.2	100 %-MCA-TCA-H ₂ O	yes
Monochloroacetic acid (MCA)	%(w/w)	max. 0.10	HPLC	yes
Trichloroacetic acid (TCA)	%(w/w)	max. 0.70	HPLC	yes
Water (H ₂ O)	%(w/w)	max. 0.04	KF titration	yes
Chloral hydrate	mg/kg	max. 20	Headspace GC	yes
Freezing point	°C	min. 12.5	ISO 1392	yes
Platinum-cobalt scale (APHA-Hazen scale)	-	max. 25	DIN ISO 6271	

¹ Outcome of a performance comparability study of various commercially available DCA in a 1 mmol synthesis of Bepirovirsen

² Quality characteristics marked with "yes" are referred to in the certificate of analysis.