

## Technical Specification of AclaF™ Iron Oxide Nanoparticles with Carboxylic Acid Group

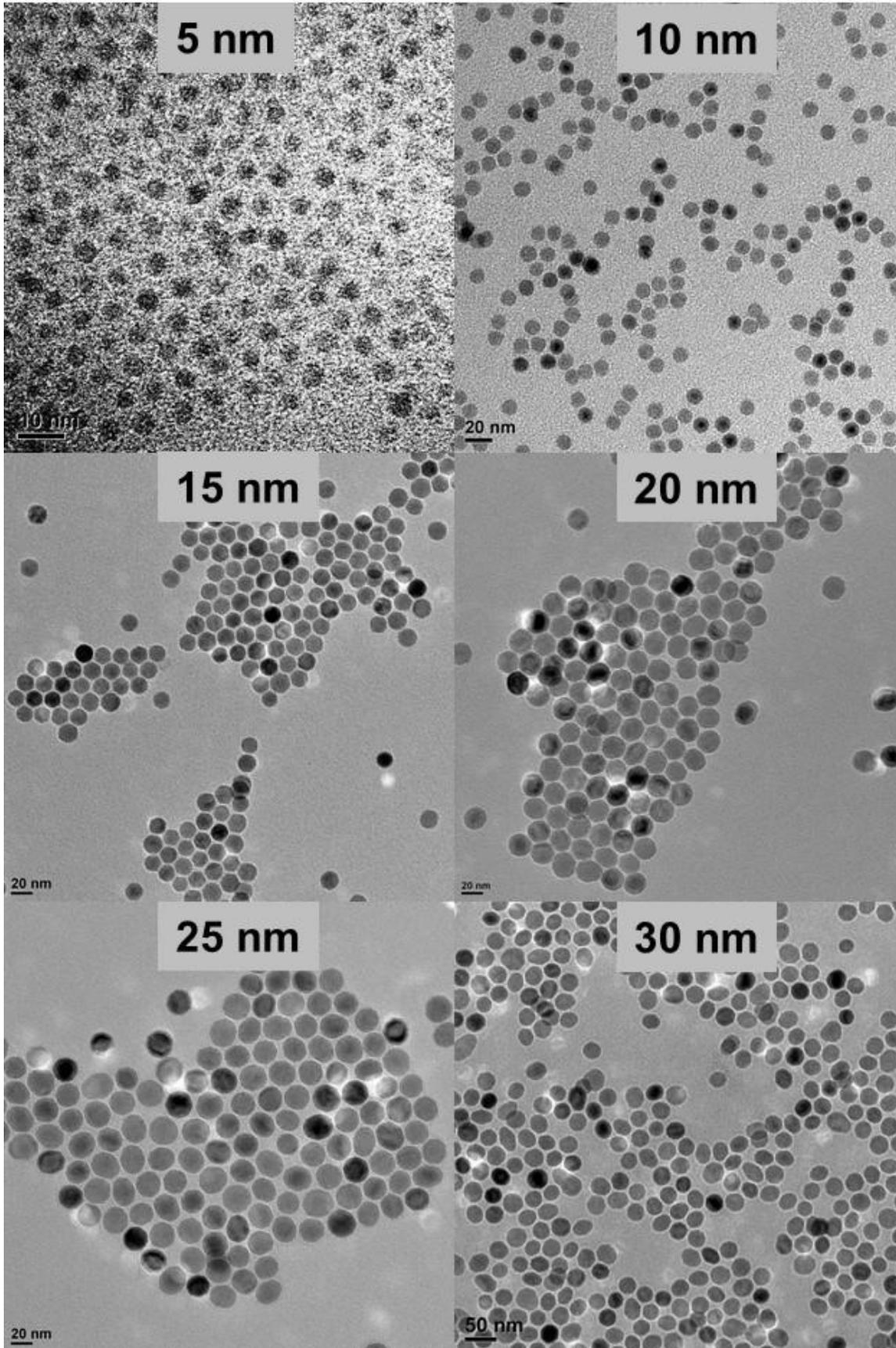
**Description:** SVP is a group of autoclaved water soluble iron oxide nanocrystals with amphiphilic polymer coating. SVP has been autoclaved at 121 ° for 30 mins, which is suitable for experiments that require enzyme-free conditions.

Their surface functional group is carboxylic acid and their zeta potential is from -30mV to -50mV. Their organic layers consist of a monolayer of oleic acid and a monolayer of amphiphilic polymer. The overall thickness of the organic layers is about 4 nm. The hydrodynamic size of the nanocrystals is about 8-10 nm larger than their inorganic core size measured by TEM.

SVP is very stable in most buffer solutions in the pH range of 4-10. SVP can be conjugated to protein, peptide and DNA by following our standard conjugation protocol.

<b>Catalog number:</b>	SVP
<b>Product name:</b>	AclaF™ iron oxide nanocrystals with carboxylic acid group.
<b>Solvent:</b>	Autoclaved DI water
<b>Surface group:</b>	Carboxylic acid
<b>Storage:</b>	4-25°C; Do not freeze.
<b>pH stability:</b>	4-10
<b>Buffer stability:</b>	Stable in Borate, Tris, HEPES, PBS, MES.
<b>Shelf life:</b>	12 months
<b>Concentration:</b>	5 mg/mL (Fe)

<b>IO size (nm):</b>	5	10	15	20	25	30
<b>Size tolerance (nm):</b>	2.5	2.5	2.5	2.5	2.5	2.5
<b>Size distribution:</b>	≤15%	≤15%	≤15%	≤15%	≤20%	≤20%
<b>Molar concentration (uM) of 5 mg/mL (Fe):</b>	34.5	4.3	1.35	0.55	0.29	0.17
<b>Structure:</b>	Maghemite		Magnetite			
<b>Chemical Formula:</b>	Fe <sub>2</sub> O <sub>3</sub>		Fe <sub>3</sub> O <sub>4</sub>			





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For R&D only. Not intended for food, drug, household, agricultural, or cosmetic use.

Ocean NanoTech, LLC shall not be held liable for any damage resulting from handling or contact with the above product.