

# Chem-Impex International, Inc.

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Manufacturing site:

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## Certificate of Analysis

<b>Catalogue Number</b>	34556
<b>Lot Number</b>	003206-2011024
<b>Product</b>	<b>DL-Malic acid</b> (±)-2-Hydroxysuccinic acid DL-Hydroxybutanedioic acid
<b>CAS Number</b>	6915-15-7 , 617-48-1
<b>Molecular Formula</b>	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>
<b>Molecular Weight</b>	134.09

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<b>Appearance</b>	White crystal powder
<b>Melting Point</b>	129 °C
<b>Heavy Metals</b>	< 10 ppm
<b>Cation</b>	Arsenic : < 2 ppm Lead : < 2 ppm Mercury : < 1 ppm
<b>Acid value</b>	Fumaric acid : 0.72% Maleic acid : 0.008%
<b>Optical Rotation</b>	[α] <sub>D</sub> <sup>20</sup> = 0 °
<b>Infrared Spectrum</b>	Conforms to structure
<b>Insoluble</b>	0.006% (Water)
<b>Sulfated Ash</b>	0.06%
<b>Assay</b>	99.4%
<b>Grade</b>	FG, KOSHER
<b>Storage</b>	Store at RT
<b>Remarks</b>	See material safety data sheet for additional information For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier



**Bala Kumar**  
Quality Control Manager