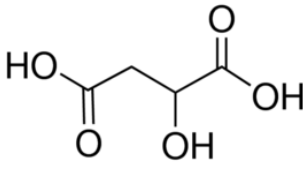


May 16, 2024

TECHNICAL DATA SHEET

Product Name	Malic Acid FUSO Type Fine Granular																																			
Chemical Name	DL-Malic Acid																																			
Synonyms	Hydroxy butanedioic Acid																																			
Formula	C ₄ H ₆ O ₅																																			
Structural Formula																																				
Molecular Weight	134.1																																			
CAS No	6915-15-7																																			
ENIECE	230-022-8																																			
Specification	<table> <tr> <td>Appearance</td> <td>: White or nearly white, crystalline powder or granule.</td> </tr> <tr> <td>Identification</td> <td>: To pass test</td> </tr> <tr> <td>Assay</td> <td>: 99.0 - 100.5%</td> </tr> <tr> <td>Residue on Ignition(JSFA)</td> <td>: NMT 0.05%</td> </tr> <tr> <td>Water-Insoluble Matter</td> <td>: NMT 0.1%</td> </tr> <tr> <td>Specific Rotation [α]_D²⁵</td> <td>: - 0.10 - + 0.10°</td> </tr> <tr> <td>Fumaric Acid</td> <td>: NMT 1.0%</td> </tr> <tr> <td>Maleic Acid</td> <td>: NMT 0.05%</td> </tr> <tr> <td>Arsenic (as As₂O₃)</td> <td>: NMT 2 mg/kg</td> </tr> <tr> <td>Heavy Metals (as Pb)</td> <td>: NMT 5 mg/kg</td> </tr> <tr> <td>Lead</td> <td>: NMT 2 mg/kg</td> </tr> <tr> <td>Copper</td> <td>: NMT 50 mg/kg</td> </tr> <tr> <td>Zinc</td> <td>: NMT. 25mg/kg</td> </tr> <tr> <td>Mercury</td> <td>: NMT 1 mg/kg</td> </tr> <tr> <td>Sulphated Ash(FCC)</td> <td>: NMT 0.1%</td> </tr> <tr> <td>Loss on Drying</td> <td>: NMT 0.3%</td> </tr> <tr> <td>Melting Point</td> <td>: 127 - 132°C</td> </tr> </table>		Appearance	: White or nearly white, crystalline powder or granule.	Identification	: To pass test	Assay	: 99.0 - 100.5%	Residue on Ignition(JSFA)	: NMT 0.05%	Water-Insoluble Matter	: NMT 0.1%	Specific Rotation [α] _D ²⁵	: - 0.10 - + 0.10°	Fumaric Acid	: NMT 1.0%	Maleic Acid	: NMT 0.05%	Arsenic (as As ₂ O ₃)	: NMT 2 mg/kg	Heavy Metals (as Pb)	: NMT 5 mg/kg	Lead	: NMT 2 mg/kg	Copper	: NMT 50 mg/kg	Zinc	: NMT. 25mg/kg	Mercury	: NMT 1 mg/kg	Sulphated Ash(FCC)	: NMT 0.1%	Loss on Drying	: NMT 0.3%	Melting Point	: 127 - 132°C
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Physical and Chemical property	<p>pH of 1^{w/w}%solution : 2.2</p> <p>Density : 1.61</p> <p>Solubility</p> <p>Water : 55.8%(20°C),60.8%(30°C)90.0%(100°C),</p> <p>Methanol : 82.7% 20°C)</p> <p>Ethanol : 45.5%(20°C)</p> <p>Diethyl ether : 0.84% (20°C)</p>
Particle Size	Through 30 Mesh 99% min
Storage Condition	Store in a dry, clean and well ventilated place at room temperature away from direct sunlight
Shelf Life	5 years after manufacturing date
Packing	25 kg in paper bag