

Jiangsu Licheng Chemical Co.,Ltd.

Add: Zhongshan 2nd Road, Coastal Economic Development Zone, Binhai, Jiangsu, China

Tel: +86-515-84388108 Fax: +86-515-84388106

Certificate of Analysis

ORIGINAL

Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility, good compatibility with resin, good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synomus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	28/11/2018
		Batch No.	181128015
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.30
	3. Color (Pt-Co)	30# max	25
	4. Water	≤0.15%	0.057
	5. Acidity (mgKOH/g)	≤0.2%	0.023
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.4412
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life:One year		

Checker: Wang

Reporter: Qin



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Acetyl Tributyl Citrate occurs Colorless transparent oily liquid, Soluble in most organic solvents. Small volatility, good compatibility with resin. good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synomus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	12/10/2018
		Batch No.	181012001
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.13
	3. Color (Pt-Co)	30# max	25
	4. Water	≤0.15%	0.078
	5. Acidity (mgKOH/g)	≤0.2%	0.048
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
	9. Arsenic	≤3 ppm	Pass
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life:One year		

Checker: KL

Reporter:WJ



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Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility. good compatibility with resin. good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synomus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	30/11/2018
		Batch No.	181130002
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in 1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.34
	3. Color (Pt-Co)	30# max	25
	4. Water	≤0.15%	0.056
	5. Acidity (mgKOH/g)	≤0.2%	0.017
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.4412
	7. Relative Density (25/25°C)	1.045~1.055	1.051
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life: One year		

Checker: Wang

Reporter: Qin



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Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility, good compatibility with resin, good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synomus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	20/11/2018
		Batch No.	181120001
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.33
	3. Color (Pt-Co)	30# max	25
	4. Water	≤0.15%	0.057
	5. Acidity (mgKOH/g)	≤0.2%	0.022
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.4412
	7. Relative Density (25/25°C)	1.045~1.055	1.051
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
	9. Arsenic	≤3 ppm	Pass
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life:One year		

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Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility. good compatibility with resin, good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synonyms:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	04/08/2018
		Batch No.	18080402
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in 1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.51
	3. Color (Pt-Co)	30# max	15
	4. Water	≤0.15%	0.040
	5. Acidity (mgKOH/g)	≤0.2%	0.038
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life: One year		

Checker: KL

Reporter: WJ



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Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility, good compatibility with resin, good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synonymus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	18/07/2018
		Batch No.	18071801
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in 1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.36
	3. Color (Pt-Co)	30# max	20
	4. Water	≤0.15%	0.068
	5. Acidity (mgKOH/g)	≤0.2%	0.040
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life: One year		

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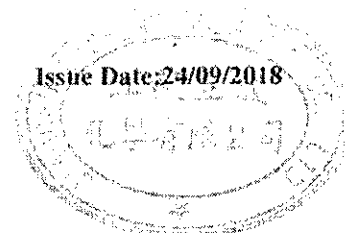
Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility, good compatibility with resin, good plasticization effect. Resistance to coldness. water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synonyms:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	24/09/2018
		Batch No.	18092403
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in 1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.58
	3. Color (Pt-Co)	30# max	15
	4. Water	≤0.15%	0.048
	5. Acidity (mgKOH/g)	≤0.2%	0.044
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life: One year		

Checker: KL

Reporter: WJ

Issue Date: 24/09/2018



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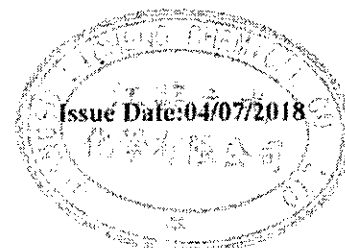
ORIGINAL

Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility, good compatibility with resin, good plasticization effect. Resistance to coldness, water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synonym:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	C ₂₀ H ₃₄ O ₈	CAS No.	77-90-7
		Production Date	04/07/2018
		Batch No.	18070401
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in 1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.51
	3. Color (Pt-Co)	30# max	15
	4. Water	≤0.15%	0.040
	5. Acidity (mgKOH/g)	≤0.2%	0.038
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life: One year		

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Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synonymus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	C ₂₀ H ₃₄ O ₈	CAS No.	77-90-7
		Production Date	20/09/2018
		Batch No.	180920001
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.56
	3. Color (Pt-Co)	30# max	17
	4. Water	≤0.15%	0.042
	5. Acidity (mgKOH/g)	≤0.2%	0.038
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life: One year		

Checker: Wang

Reporter: Qin



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Acetyl Tributyl Citrate occurs Colorless transparent oily liquid. Soluble in most organic solvents. Small volatility. good compatibility with resin. good plasticization effect. Resistance to coldness. water Colorless transparent oily liquid.

Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synomus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	15/10/2018
		Batch No.	181015002
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.34
	3. Color (Pt-Co)	30# max	28
	4. Water	≤0.15%	0.065
	5. Acidity (mgKOH/g)	≤0.2%	0.046
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.442
	7. Relative Density (25/25°C)	1.045~1.055	1.052
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
9. Arsenic	≤3 ppm	Pass	
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life:One year		

Checker: Wang

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Product Name	Full Name:	Acetyl Tributyl Citrate	
	Short Name:	ATBC	
	Synomus:	Tributyl Ester; Acetyl Tri-n-butyl Citrate	
Structural Formula	$C_{20}H_{34}O_8$	CAS No.	77-90-7
		Production Date	25/09/2018
		Batch No.	180925002
Physical Properties	Molecular Weight	402.48 (provided by IUPAC in1995)	
	Boiling Point	343°C (0.101MPa)	
	Flash Point	204°C	
Specifications	Items	Standard	Test Result
	1. Appearance	Colorless Transparent Liquid	Colorless Transparent Liquid
	2. Content	99% min	99.20
	3. Color (Pt-Co)	30# max	10
	4. Water	≤0.15%	0.1
	5. Acidity (mgKOH/g)	≤0.2%	0.0045
	6. Refractive Index (25°C/D)	1.4410~1.4425	1.4412
	7. Relative Density (25/25°C)	1.045~1.055	1.051
	8. Heavy Metals (as Pb)	≤10 ppm	Pass
	9. Arsenic	≤3 ppm	Pass
Packaging	Standard Packaging: PACKED IN ONE PACKAGE		
Storage	Store under dry and cool condition, and keep product air-tight.		
Test Conclusion	Qualified		
Remark	Shelf life:One year		

Checker: Wang

Reporter:Qin

