

The world leader in serving science

# CERTIFICATE OF ANALYSIS

PRODUCT NAME: TFA Trifluoroacetic Acid

### PRODUCT NUMBER: 1873080

# LOT NUMBER: SC2341911

## SPECIFICATIONS:

VISUAL: Clear, colorless liquid, free of particulate matter.

PURITY: (by titration)  $\geq$  99.5%

WATER CONTENT: (by Karl Fischer):  $\leq 0.1\%$ 

CHAIN LENGTH:  $\geq$  99.5% C2

TOLLEN'S TEST: Negative

UV ANALYSIS:

 $\begin{array}{ll} (0.1\% \mbox{ aq}) & (Neat) \\ A(280) \leq 0.002 & A(300) \leq 0.03 \\ A(254) \leq 0.005 & A(275) \leq 0.04 \\ A(230) \leq 0.090 & \mbox{ Cut-off} \leq 262nm \end{array}$ 

NINHYDRIN POSITIVES:  $A(570) \le 0.02$  above blank

#### **RESULTS:**

VISUAL: Clear, colorless liquid, free of particulate matter.

PURITY: (by titration) 99.9%

WATER CONTENT: (by Karl Fischer): 0.01%

CHAIN LENGTH: 100% C2

TOLLEN'S TEST: Negative

UV ANALYSIS:

(0.1% aq)	(Neat)
A(280) = 0.000	A(300) = 0.01
A(254) = 0.003	A(275) = Passes test
A(230) = 0.063	Cut-off = 259nm

NINHYDRIN POSITIVES: A(570) = 0.01 above blank

Publish Date: 3/3/2017

Dorothy Uili, Quality Chemist

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will confirm to such model or sample. NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON INFRINCEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD TO REPAIR, REPLACEMENT FOR OR NON-CONFORMING PRODUCTS ON ON SUBMED TO REPAIR, REPLACEMENT FOR NON-CONFORMING PRODUCTS SUBJECT OF REPLACEMENT FOR OR REPLACEMENT FOR OR CONFORMING PRODUCTS IN THE PROPULATION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR THE PROPULATS AS THE RESULT OF (I) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (II) USE OF THE PRODUCTS IN MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (IV) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. UNless otherwise expressly stated on the documentation accompanying the Product in the Product on in work negative, exercisely stated on the Product or in vivo therapeutic uses, or any type of consumption by or application to humans or animals.

Pierce Biotechnology 3747 N. Meridian Road PO Box 117 Rockford, IL 61105 USA (800) 874-3723 tel (815) 968-7316 fax (815) 968-0747 tel www.thermoscientific.com/pierce



The world leader in serving science

#### **CERTIFICATE OF ANALYSIS**

Wowsthy Mili

[Rev.001]

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than Buyer. Any model or sample, trainished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will confirm to such model or sample. NO OTHER WARRANTIES, EXPRESS OR IMPLED, ARE GRANTED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD TO REPAIR, REPLACEMENT FOR OR ON CONFORMING PRODUCTS ON CONFORMING PRODUCTS SUMMED TO REPAIR, REPLACEMENT OF OR REPLADED FOR THE NON-CONFORMING PRODUCTS SUMENT OF REPLACEMENT OF OR REPLADED FOR THE NON-CONFORMING PRODUCTS AS THE RESULT OF (1) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (II) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (III) USE OF THE PRODUCTS IN ANNNER FOR WHICH THEY WERE NOT DESIGNED, OR (IV) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unlines otherwise expressly stated on the Product on in vivo therapeutic uses, or any type of consumption by or application to humans or animals.

Pierce Biotechnology PO Box 117 3747 N. Meridian Road Rockford, IL 61105 USA

(800) 874-3723 tel (815) 968-0747 tel (815) 968-7316 fax www.thermoscientific.com/pierce